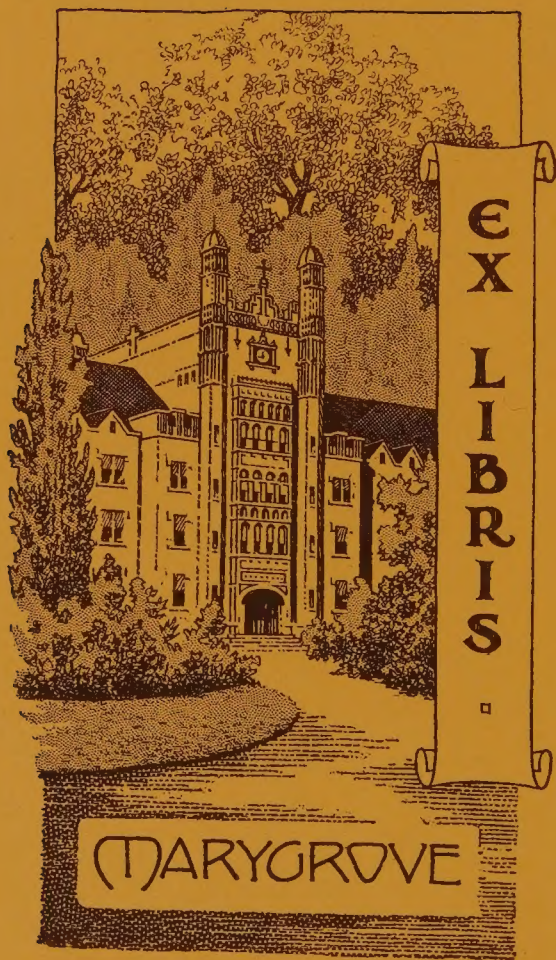


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YEARBOOK XXIV
1925

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SUMMARY OF XXIV YEARBOOK, BOTH PARTS

TWENTY-FOURTH YEARBOOK, PART I (1925)

REPORT OF THE NATIONAL COMMITTEE ON READING

F. W. Ballou, W. S. Gray, Rose L. Hardy, Ernest Horn, Frances Jenkins,
S. A. Leonard, Estaline Wilson, and Laura Zirbes

Under the chairmanship of W. S. Gray, this Committee, appointed by Commissioner Tigert in January, 1923, subsidized by the Commonwealth Fund, and assisted by numerous school and university specialists, has used the avenue of publication afforded by this Society to present what is one of the most authoritative and most useful general discussions of the problem of reading that has been made available. Among the topics considered are: the aims of instruction in reading, a modern program of reading instruction for the elementary grades and the high school, methods of developing a meaningful vocabulary, the relation of reading to literature and the other content subjects, materials for instruction, standardized and informal reading tests, recognition of individual differences by diagnosis and remedial work. A feature of the book is the series of specific recommendations in which the members of the Committee, by discussion and experiment, have been able to concur.

TWENTY-FOURTH YEARBOOK, PART II (1925)

ADAPTING THE SCHOOLS TO INDIVIDUAL DIFFERENCES

Franklin Bobbitt, B. R. Buckingham, S. A. Courtis, W. S. Gray, Ernest Horn,
Jessie Mackinder, Helen Parkhurst, A. H. Sutherland, Mary A. Ward,
C. W. Washburne, chairman (the Society's Committee)

assisted by

Cecilia Anderson, R. N. Brown, Grace E. Carter, F. E. Clerk, Mary H. Comings,
U. J. Hoffman, Hilda M. Holmes, W. H. Holmes, W. H. Kilpatrick,
S. A. Leonard, J. L. McCrory, H. L. Miller, W. C. Reavis,
Margaret Smith, A. J. Stoddard, Elizabeth T. Sullivan,
L. Belle Voegelien, and W. A. Wirt

Section I of this important yearbook describes the factors which under ordinary school conditions tend to produce maladjustments of pupils with respect to grading and rate of progress. Section II follows with a description of typical attempts to meet these difficulties by adjusting the school's organization and methods of instruction. Section III details statistical results of experiments in the individualization of instruction, with special reference to the work at Winnetka. Section IV discusses the various problems which are encountered in thus adapting schools, and Section V outlines the steps involved in launching a program of this sort. Section VI is a critique of these proposals, while Section VII comprises an annotated bibliography of 76 pages.

THE
TWENTY-FOURTH YEARBOOK
OF THE
NATIONAL SOCIETY FOR THE STUDY
OF EDUCATION

PART I

REPORT OF THE NATIONAL COMMITTEE ON READING

FRANK W. BALLOU
ROSE LEES HARDY
ERNEST HORN
FRANCES JENKINS
STERLING A. LEONARD
ESTALINE WILSON
LAURA ZIRBES
WILLIAM S. GRAY, *Chairman*

Edited by
GUY MONTROSE WHIPPLE
Secretary

THIS YEARBOOK WILL BE DISCUSSED AT THE CINCINNATI MEETING
OF THE SOCIETY SATURDAY, FEBRUARY 21, 1925.
8 P.M.

PUBLIC SCHOOL PUBLISHING COMPANY
BLOOMINGTON, ILLINOIS
1925

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for 1925

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TABLE OF CONTENTS

	Page
Editor's Preface	v
Introduction	vi
CHAP.	
I. READING ACTIVITIES IN SCHOOL AND IN SOCIAL LIFE.....	1
II. ESSENTIAL OBJECTIVES OF INSTRUCTION IN READING.....	9
Rich and Varied Experience Through Reading.....	9
Strong Motives for, and Permanent Interests in Reading.....	11
Desirable Attitudes and Skills.....	11
III. A MODERN PROGRAM OF READING INSTRUCTION FOR THE GRADES AND FOR THE HIGH SCHOOL.....	21
Important Divisions of a Reading Program	21
Experience and Training Which Prepare Pupils for Reading	26
Classification of First-Grade Children.....	30
Initial Period of Reading Instruction.....	35
Period of Rapid Growth in Fundamental Skills.....	45
Wide Reading to Extend Experience and to Cultivate Im- portant Reading Attitudes	55
Period of Refinement of Specific Reading Attitudes, Habits, and Tastes	64
IV. THE DEVELOPMENT OF A MEANINGFUL VOCABULARY AND OF INDEPENDENCE IN WORD RECOGNITION.....	75
Development of a Rich Meaning Vocabulary.....	76
Initial Association of Spoken Words with Symbols.....	79
Methods of Word Analysis.....	81
Place of Phonetic Analysis in Word Recognition.....	85
Critique of Undesirable Practices in Phonetic Training.....	89
Suggested Program of Instruction.....	91
V. THE RELATION OF READING TO CONTENT SUBJECTS AND OTHER SCHOOL ACTIVITIES	97
Reading in the Initial Period.....	100
Period of Rapid Growth in Reading.....	103
Period of Enriched Experience.....	108
Geography and Reading.....	108
Arithmetic and Reading.....	114
Industrial Arts and Reading.....	119
Physical Education and Reading.....	121
Period of Independent Application of Reading Ability.....	122
History and Reading.....	123
Mathematics and Reading	128
Reading in Science.....	132
Industrial Arts and Reading.....	137
Summary	140
VI. THE RELATION BETWEEN READING AND LITERATURE.....	141
What are the Values of Literature in School and in Life?.....	141
The Selection of Literary Materials.....	143
Classroom Procedure in the Teaching of Literature.....	149
VII. APPROPRIATE MATERIALS FOR INSTRUCTION IN READING.....	161
Part I. General Considerations in Selecting Materials for the Course of Study in Reading.....	161
Materials Needed for Recreatory Reading.....	162
Material Needed for the Work Types of Reading.....	167

	Page
Types of Pedagogical Equipment Needed to Acquire Fundamental Processes	171
Part II. Recommendations by Periods.....	172
Bibliography of Books and Articles on Selecting Reading Materials for Children.....	173
The First Period	177
The Second Period	183
Spoken Vocabulary of Children up to Six Years of Age	186
Vocabulary of Primers and First Readers.....	193
The Third Period	205
The Fourth Period.....	211
The Fifth Period	218
VIII. PROVISION FOR INDIVIDUAL DIFFERENCES.....	227
IX. READING TESTS—STANDARDIZED AND INFORMAL.....	233
Informal Reading Tests	233
For the Pre-Reading Stage.....	233
For the Initial Period of Reading Instruction.....	234
For the Period of Rapid Growth in Fundamental Skills	243
For the Intermediate Grades.....	252
Of Specific Reading Habits of the Work Type.....	256
Advantages of Informal Tests.....	261
Criteria That Informal Tests Should Satisfy.....	262
Standardized Reading Tests	264
Bases of Test Selection.....	265
Carrying Out a Testing Program.....	266
A Chart of Standard Reading Tests.....	267
References	273
X. DIAGNOSIS AND REMEDIAL WORK.....	275
Practical Suggestions	276
Tabular Analysis of Suggestions.....	278
Recommendations	288
References	288
XI. WAYS AND MEANS OF PUTTING AN IMPROVED READING PROGRAM INTO OPERATION.....	291
Survey of the Present Reading Situation.....	291
Goals to be Reached	293
Provision of Adequate Reading Materials.....	296
Provision for Individual Differences.....	299
Means of Putting the Program into Operation.....	301
Concluding Statement	304
XII. SUMMARY OF OUTSTANDING RECOMMENDATIONS AND SUGGESTED PROBLEMS IN URGENT NEED OF INVESTIGATION.....	305
CONSTITUTION OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION	311
MINUTES OF THE CHICAGO MEETING OF THE SOCIETY.....	314
SYNOPSIS OF THE PROCEEDINGS OF THE BOARD OF DIRECTORS.....	321
REPORTS ON YEARBOOKS IN PREPARATION.....	329
REPORT OF THE TREASURER OF THE SOCIETY FOR 1924.....	336
LIST OF HONORARY AND ACTIVE MEMBERS OF THE SOCIETY.....	338
INFORMATION CONCERNING THE SOCIETY.....	357

EDITOR'S PREFACE

In accepting for one of its *Yearbooks* a report prepared by a group of investigators not primarily organized from its own initiative, though comprised almost entirely of its own active members, this Society is but continuing a precedent that has been followed at various times during the past, and with advantage both to the investigators and to itself. Nor is this the first time that the *Yearbooks* have dealt with reading. On the contrary, it will be recalled that the *Twentieth Yearbook, Part II*, published in 1921, was devoted to the "Report of the Society's Committee on Silent Reading," and also that numerous helpful discussions concerning reading appeared in the *Nineteenth Yearbook, Part I* and the *Twentieth Yearbook, Part I*, on "New Materials of Instruction," and at various points in the several *Yearbooks* (Fourteenth, Part I; Sixteenth, Part I; Seventeenth, Part I; and Eighteenth, Part II) that dealt with "Minimal Essentials in Elementary-School Subjects" and "Economy of Time in Learning." Despite these many references to the subject, this present *Yearbook* will not come amiss, for reading is so obviously the key subject of the elementary grades and has, as this *Yearbook* rightly stresses, so many ramifications and contacts with the other school subjects and with important attitudes and habits of mental work that we cannot have too much light thrown upon its aims and methods.

Members of the Society will appreciate alike the authoritative-ness of the present volume and the care with which its compilers have kept clearly differentiated what is known, what is merely the best opinion, and what is yet unknown and in urgent need of investigation.

G. M. W.

INTRODUCTION

Purpose and appointment of the Reading Committee. At a conference of representative school men held in December, 1922, the fact was emphasized that there is great waste of time and effort in teaching many school subjects. The opinion was unanimous that progress in improving instruction would be far more rapid if school officers and teachers were provided with carefully prepared suggestions concerning debatable issues in particular fields. The members of the conference voted, therefore, to recommend to Commissioner Tigert that a committee be appointed to make a study of important problems in one subject, namely, reading, and to prepare recommendations based on experimental evidence as far as possible, and on expert opinion where such evidence is lacking. A committee of seven was officially appointed in January, 1923. Another member was added to the committee later.

Brief résumé of activities and problems of the Committee. The first meeting of the committee was held in Cleveland, February 28, 1923, when a general plan of procedure was adopted. The first steps taken were to secure from teachers and supervisors a list of reading problems that presented serious difficulty. The reports received from the teachers of more than fifty cities contained a wealth of invaluable information. With a summary of this material at hand the committee met in Chicago in May for a conference concerning the nature and scope of the proposed report. During the course of the conference two facts became evident: first, that suggestions were needed concerning practically every phase of reading instruction; and second, that most of the recommendations which should be made could be organized to advantage about eight or ten problems of major importance. The plan was adopted, therefore, of assigning one or more problems and their related issues to each member of the committee, who was authorized to secure the assistance of experts in studying them and in preparing a report. It was also agreed that these reports should include systematic discussions of the problems in each field, rather than a series of brief recommendations concerning specific issues. The committee hoped that such discussions would not only provide answers to specific questions, but would, in addition, prove a valuable source of information for use in reorganizing courses of study and in improving classroom teaching.

During the summer and autumn of 1923, it was found that the problem assigned required more time for study than members of the committee could spare from their regular professional duties. Furthermore, no funds were available to defray expenses for necessary conferences. These facts are referred to here because the Reading Committee is convinced that adequate provision of both time and funds should be made in the future for committees which are to

undertake pieces of work of large importance. Fortunately, in the present case timely steps were taken by various agencies which provided the committee with much needed assistance.

The first step was the adoption by several national organizations of a resolution supporting the recommendation that governing boards be asked to relieve members of committees engaged in enterprises of major importance from a part or all of their regular duties for a period of time on pay. A copy of the resolution follows:

"At a recent meeting of a group of representative schoolmen before whom the work of the Committee on Reading appointed by Commissioner Tigert was reported, it was pointed out that the assembling and interpretation of the material which should be made available for the use of teachers and supervisors would require more time and energy than the members of the committee could give while meeting their regular professional obligations. In order that this service might be rendered to the profession, it was urged that the institutions and school systems in which the committee are employed be asked to relieve them for a period of time on pay from a part or all of their regular duties in order that they might complete the work undertaken. It was recommended as well that this policy in the cases of enterprises of major importance be sanctioned by professional organizations interested in such work by resolution in their next annual meeting. In support of the recommendation, several individuals reported action by the governing boards under which they are employed, relieving them from their duties in order that they might render important professional service, significant not only to their own group but also to the development of scientific work in education and to the efficiency of all workers in that field."

The adoption of this resolution made it possible for members of the committee to secure permission to leave their regular work for short periods of time to attend a limited number of conferences. The committee was further assisted in its work by a subsidy from the Commonwealth Fund.

As a result of the generous attitude of governing boards and of the subsidy which was granted, the Reading Committee was able to continue its work in 1924. A conference lasting for three days was held in February during the week of the Chicago meeting of the Department of Superintendence. Brief conferences were also held in Chicago and in Toledo during May and June by members of the committee who were interested in particular problems. Preliminary drafts of the report were submitted to various members of the committee during August and September for criticism and suggestions. A final meeting, lasting for seven days, was held in Chicago in October. At this time members of the committee worked intensively on sections of the report, engaged in critical discussions of the various chapters, and modified and refined their recommendations. It is needless to state that far more time could have been used to distinct advantage for these purposes.

Nature and validity of the recommendations. The committee was

requested at the time of its appointment to prepare recommendations concerning debatable issues in the field of reading, based on experimental evidence, as far as possible, and on expert opinion when evidence was lacking. It has endeavored to follow instructions and to provide valid recommendations. Each member of the committee has made a careful study of investigations relating to his problems and has referred frequently in the report to investigations which support the recommendations that are made. Each section of the report has been studied critically by individual members of the committee and constructive suggestions offered. The revised reports have been discussed deliberately by the committee as a whole and additional changes made. It was impossible to secure experimental evidence in support of each recommendation included in the report. Furthermore, there was inadequate time at the disposal of the committee to discuss all recommendations in detail. It is quite probable, therefore, that suggestions have been included which are not entirely valid and that future experimental studies may justify departure from some of the recommendations in this report. Meanwhile, practical workers in the field may be assured that the report contains the most carefully considered recommendations available at present in the field of reading.

Because of the limitations of this report, the Reading Committee recommends that a committee be organized to continue studies in the field of reading. Field studies as well as laboratory studies should be encouraged. There is special need of a series of investigations in city systems to determine the most effective ways of organizing and supervising reading instruction. There is also need of a series of studies to determine methods of teaching which secure results most economically and effectively. Funds should be provided which will make it possible for a committee to carry on its work systematically. In from three to five years, a subsequent report should indicate clearly the progress which has been made in the scientific study of reading problems, the changes in instruction which are justified by such investigations, and the problems which are in most need of further study. It is only through well-organized, systematic effort extending over a period of years that instruction in reading, or in any other subject, may be definitely established on a scientific basis.

Acknowledgments. The members of the Reading Committee wish to express at this time their appreciation to those who made this report possible. They are especially indebted (a) to the group of representative schoolmen who saw the need of a report on reading and who offered valuable suggestions concerning the nature and content of the report; (b) to Commissioner Tigert, who appointed the committee, took personal interest in its work, and offered whatever assistance the Bureau of Education could provide; (c) to the Commonwealth Fund Committee for the financial help which it

gave, (d) to the Board of Directors of the National Society for the Study of Education for arranging to publish the report, and (e) to publishers who provided members of the committee with much valuable information concerning available reading materials.

The members of the committee also wish to express their keen appreciation to those who contributed generously of their time and energy, either in assisting the committee as a whole, or as members of a sub-committee. In this connection, the committee is especially indebted to the following:

Wilbur L. Beauchamp, Instructor of Science, University High School,
The University of Chicago

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College

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consin

Willis L. Uhl, Associate Professor of Education, University of Wis-
consin, Madison, Wisconsin.

C. W. Washburne, Superintendent of Schools, Winnetka, Illinois

Marian J. Wesley, Supervisor of Primary Grades, Haverhill, Massa-
chusetts

The contents of this Yearbook are presented as a report of the committee as a whole. Nevertheless, full credit should be given for specific contributions to individual members of the committee. The

names of the members of the committee and the problems for which each was directly responsible follow:

William S. Gray, Dean of the College of Education, The University of Chicago

“Reading in School and in Social Life” (Except the “Classification of Reading Experiences”)

“Essential Objectives of Instruction in Reading”

“A Modern Program of Reading Instruction for the Grades and for the High School”

Sterling A. Leonard, Assistant Professor of English, University of Wisconsin

“Classification of Reading Experiences” (in Ch. I)

“The Relation between Reading and Literature”

Ernest Horn, Professor of Education, University of Iowa

“Appropriate Materials for Instruction in Reading”

Frances Jenkins, Assistant Professor of Education, College of Education, University of Cincinnati

“The Development of a Meaningful Vocabulary and of Independence in Word Recognition”

Estaline Wilson, Assistant Superintendent of Schools, Toledo, Ohio.

“The Relation of Reading to Other School Subjects and Activities”

Laura Zirbes, Investigator in Reading, Lincoln School of Teachers College, New York City.

“Provision for Individual Differences”

“Reading Tests: Standardized and Informal”

“Diagnosis and Remedial Work”

Frank W. Ballou, Superintendent of Schools, Washington, D. C., and

Rose Lees Hardy, Director of Primary Instruction, Washington, D. C.

“Ways and Means of Putting Across an Improved Reading Program into Operation”

The additional statement should be made that members of the committee have generously contributed material which had been prepared for publication elsewhere. The fact has been clearly recognized from the beginning that the publication of materials in this report should in no way interfere with other publication plans of members of the committee.

FRANK W. BALLOU

ROSE LEES HARDY

ERNEST HORN

FRANCES JENKINS

STERLING A. LEONARD

ESTALINE WILSON

LAURA ZIRBES

WILLIAM S. GRAY, *Chairman.*

CHAPTER I

READING ACTIVITIES IN SCHOOL AND IN SOCIAL LIFE

Point of view. The justification of any subject in the curriculum is that it enables pupils to engage effectively in desirable life activities. In keeping with this principle, instruction in reading should take account first of the reading experiences of children and adults in the home, in school, and in all social life. Information about these experiences aids in determining the kinds of reading that people do and should learn to do better. It may also reveal the reading activities that deserve and need special encouragement.

It is the purpose of this section to consider important facts concerning reading in school and in modern life, and to outline types of reading activities in which children and adults frequently engage. Such an outline reveals, in a limited way, the breadth and variety of reading activities that should be considered in planning a program of instruction.

Relation of reading to school activities. The most important change of recent years in classroom instruction is the enrichment of the course of study and of the opportunities offered to children. Instead of few textbooks relating to a limited number of topics, the progressive school to-day provides wide reading opportunities in many fields. Furthermore, the solution of most classroom problems requires the skillful use of books and sources of information. The library "is the place where the children bring the experiences, the problems, the questions, the particular facts which they have found and discuss them so that new light may be thrown upon them, particularly new light from the experiences of others." . . .¹

These tendencies have resulted in establishing a very close relation between reading and practically every school activity. As a special subject of instruction, it is intimately related to children's daily experiences and language activities, and should be taught in connection with them. As a means of gaining information and pleasure, it is essential in every content subject, such as history, geography, arithmetic, science, and literature. In fact, rapid progress in

¹ John Dewey, *School and Society*, p. 100. Chicago: University of Chicago Press, 1900.

these subjects depends in a large degree on the ability of pupils to read independently and intelligently. It follows that good teaching must provide for the improvement and refinement of the reading attitudes, habits, and skills that are needed in all school activities involving reading.

SIGNIFICANT FACTS ABOUT READING IN MODREN LIFE

Intelligent reading essential. One of the noteworthy developments of the last decade is a keener appreciation of the importance of intelligent reading in social life. Investigations² show that it is an indispensable means of "familiarizing adults with current events, with significant social issues, with community and national problems, and with American institutions, ideals, and aspirations." It is essential also in attaining vocational efficiency, in broadening one's range of general information, and in securing pleasure and profit during leisure hours. An additional value has been expressed forcibly in the following terms:

We cannot deal with men and affairs beyond our personal touch without the printed record to give us understanding of them. All co-operation begins with understanding and the sympathy which flows from understanding. Democracies with a far-flung population, greatly diversified in occupation and manner of life, must rely heavily for common appreciations upon printed records, newspapers, magazines, and books. . . . Thus teachers and schools have become necessary to that expanded power of appreciation, chiefly gained through books, which our modern democracies and world relations require.³

Rapid increase in amount of reading. A second significant fact is that the amount of reading has increased rapidly during recent years. It has been shown⁴ that the number of newspapers and magazines issued has increased at least 500 percent since 1880, although the increase in population during the same period has been little more than one fifth as much. Recent estimates of the daily circulation of newspapers place the number above thirty millions. It is doubtless safe to conclude that the number of readers is far greater.

² William S. Gray, "Importance of intelligent silent reading," *Elementary School Journal*, 24 (January, 1924), 348-356; also other studies referred to in this article.

³ Henry Suzzallo, *Our Faith in Education*, pp. 36-39. Philadelphia: J. B. Lippincott Co., 1924.

⁴ Charles H. Judd, "Relation of school expansion to reading," *Elementary School Journal*, 23 (December, 1922), 253-255.

Periodicals, several of which publish more than a million at each issue, are everywhere on sale. The rural delivery has developed so widely that nearly every community receives daily papers, government bulletins, and magazines. Furthermore, free public libraries containing thousands of books supply reading materials to many people in every section of the land. During the last twelve years the number of withdrawals per year in some libraries has increased 400 percent. It is evident that the use of so much printed material, if intelligently selected and interpreted, will produce a profound effect on American life in the near future. Unfortunately, much of the material read has little or no value, and much that is of real worth is read by only a few.

Inadequate reading attitudes and habits. The third fact is that a surprisingly large number of people are not interested in reading, do not read, and, in fact, cannot read effectively even simple material. The results of the army tests led to the conclusion⁵ that "there must have been over a million of our soldiers and sailors who were not able to write a simple letter or read a newspaper with ease." This statement was followed by another of even greater significance, namely: "This deficiency was not caused by their never having learned to read. The fact is that an overwhelming majority of these soldiers had entered school, attended the primary grades where reading is taught, and had been taught to read. Yet, when as adults they were examined, they were unable to read readily such simple material as that of a daily newspaper." These facts make it clear that schools face two genuine problems, namely, to train all pupils to read effectively and to establish strong motives for, and permanent interests in, reading.

Silent reading of largest social value. The fourth fact is that most reading is carried on silently. In a study⁶ of the reading habits of more than nine hundred adults representing practically every station in life, it was found "that fewer than 5 percent read aloud on other than very infrequent occasions." It is no doubt true that many adults who do not read orally could do so on occasions to distinct advantage. Even when such facts are considered, it is

⁵ May Ayres Burgess, *The Measurement of Silent Reading*, p. 11. New York: Russell Sage Foundation, 1921.

⁶ William S. Gray, "The importance of intelligent silent reading," *Elementary School Journal*, 24 (January, 1924), 348-349.

evident that there is need of vigorous emphasis in any program of instruction on habits of intelligent silent reading.

Children and adults read for many purposes. The fifth fact is that children and adults read for a wide variety⁷ of purposes. For example, adults read silently to secure general information and civic enlightenment, to attain greater vocational efficiency, to extend experience, and to secure pleasure during leisure hours. They also read aloud at times to inform or entertain others or to derive pleasure for themselves. Reports⁸ from 250 teachers show that pupils read for more than thirty different purposes in preparing assignments. For example, they read to find answers to questions, to follow directions, and to select important points and supporting details. Recent investigations⁹ show clearly that changes in the purposes of reading and in the kinds of material read are accompanied by radical changes in the habits that are employed in reading. It follows that children should be trained to read desirable kinds of material and for a variety of useful purposes.

CLASSIFICATION OF READING EXPERIENCES

Two types of reading experiences. The discussion so far has emphasized the fact that reading is intimately related to all school activities, that it is indispensable in modern life, and that children and adults read for many useful purposes. It is essential, therefore, that we consider in greater detail the types of reading that should be encouraged through instruction. Unfortunately, a complete list of essential reading experiences has never been prepared. In the tentative outline that follows, an effort has been made to show the breadth and variety of reading activities in which children and adults engage, rather than to present an exhaustive list of desirable activities.

The results of the few available studies¹⁰ of uses of reading sug-

⁷ William S. Gray, "The importance of intelligent silent reading," *Elementary School Journal*, 24 (January, 1924), 348-356.

⁸ William S. Gray, "The relation between reading and study," *National Education Association: Addresses and Proceedings*, 57 (1919), 580-586.

⁹ Charles H. Judd and Guy T. Buswell, *Silent Reading: A Study of the Various Types*, Chap. III. Supplementary Educational Monographs, No. 23. Chicago: Department of Education, University of Chicago, 1922.

¹⁰ William S. Gray, "The importance of intelligent silent reading," *Elementary School Journal*, 24 (January, 1924), 348-356.

Ernest Horn and Maude McBroom, "A Survey of the Course of Study in Reading," *University of Iowa Extension Bulletin*, No. 99 (1924).

gest that reading activities may be conveniently grouped into two types, depending more on the attitude of the reader than on the subject matter. These are *work-type* and *recreational* reading. This plan of classification has been adopted because these two types of reading are frequently confused in classrooms, and it is desirable to distinguish them for the purposes of this report. It is not intended, as indeed it seems quite impossible, to set up any full and complete separation between them. Not only may almost any selection or book be read with different purposes by different readers or by the same reader at different times, but one's attitude or purpose may change in the course of his reading. The examples which follow, therefore, are merely suggestions of materials that are often put to the purposes mentioned.

Work-type reading. The work type of reading is associated with the demands of our vocations, civic duties, and other phases of daily life. Such reading, it should be noted, is directed most often by relatively conscious and practical purposes. Thus, adults turn to professional trade, or home-making journals to discover new and important items of information. Most people read news items, advertisements, editorials, and notices purposively, to direct action, to study current problems, and, if possible, to arrive at principles of conduct in civic and personal matters.

The same sort of reading is no less common among children. Boys read and follow directions in the *Scout Manual* and books on radio, and girls read similarly about campcraft, cooking, and sewing. Children's magazines abound in puzzles, construction problems, and directions for various activities. Moreover, since schools are organized, in large part, for definite increase of knowledge, a great deal of the reading assigned there belongs primarily to the work type. Most lessons in history and civics, geography and other sciences, mathematics, and language require this kind of reading. Unfortunately, we have too often required such reading, rather than taught pupils how to do it effectively.

Typical Situations Which Lead Children and Adults to Reading of the Work Type

1. *To cross streets, to find stores and houses, and to make longer journeys:* reading signs, railroad folders, maps, road guides.

2. *To understand assignments and directions in both school and life activities.*

3. *To work out complicated problems or experiments:* reading Scout Manuals, materials on radio, cook-books, problems in arithmetic or other textbooks and science manuals. Adults have also to read income-tax blanks and materials relating to their vocations, home-making, care of children.

4. *To find or verify spelling, pronunciation, meaning, use of words:* using the dictionary, encyclopedia and other reference books.

5. *To gather materials for fuller understanding or for talking or writing on one's hobby, for assigned papers and discussions in school or club, and for experiments*—a common type of work in schools which have gone beyond the one-text stage: using all the facilities of the reference library, and tables of contents, indexes, headings, charts, illustrations, graphs, and tables in books.

6. *To inform or convince others:* reading aloud minutes, notices, instructions, announcements, resolutions, reports (including compositions on work-type topics)—usually when only one person has the matter before him—and reading aloud passages bearing on points under discussion.

7. *To know what is going on:* reading news items, comments on events, book and drama reviews; looking over publishers' lists; tracing quotations or allusions or tracing and verifying statements to keep one up to the times. (For many people this sort of reading is recreational; for others it is distinctly work.) In school this is represented by many assignments in civics, American problems, international relations, and current history, and in the reading of bulletins in rooms or halls and communications from other classes and schools. A common illustration among adults is reading or skimming trade, manufacturing and professional journals and books or reports, to see what is new and how others in one's field are acting and thinking.

8. *To decide how to act in new situations:* reading notices, warnings, "advice to young people," business offers, advertisements. Pupils realize that they must meet new situations increasingly as they grow up. Such reading is done in school and needs to be done oftener on assignments in which pupils learn to weigh the accuracy and reliability of statements and make choice, or secure full information and then decide what to continue and complete.

9. *To reach conclusions as to guiding principles, relative values or cause and effect:* reading conflicting opinions as to school athletics, social behavior, politics, war, and the like; reading reports and editorials about strikes, elections, committee hearings. Here, again, good schools, by assignments like those listed in No. 7 above, are doing valuable work. This also leads to devising new problems or determining action. Such independent reading is what all self-directed and intelligent workers do in real life; we need much more of it in school.

Recreational Reading. Recreational reading, on the other hand, is associated with the wholesome enjoyment of leisure time. It is in general directed by no conscious purpose, but rather by random, healthy curiosity and the search for pleasant occupation.

Two varieties of recreational reading should be emphasized here. One of these grows out of natural and useful curiosity about *actual experience*, and particularly about human nature and the conditions of our lives. Such curiosity begins with the child's first interest in stories and pictures, and continues increasingly through life. We want to know about the ways of animals and about strange countries and stars and times different from our own. A parallel concern is with pictures of things and happenings the most familiar to us. Following on a quite opposite recreational track, we often seek mere enjoyment and rest through *getting away from reality*. Children's engrossment in fairy tales and tales of wonderland and nonsense is an example of this enjoyable kind of recreational reading. It is wholesome and harmless for all of us so long as it is not taken for reality.

*Typical Situations Which Lead Children and Adults to Reading
of the Recreational Type*

1. *To relive common every-day experiences:* enjoying stories of home and school and of one's own village or city, such as *Little Women* and *Tom Sawyer* for children, and Garland's stories and Whittier's verse for adults.

2. *For fun or sheer enjoyment during leisure time:* reading jokes, nonsense rhymes, Briggs' boy-cartoons for children, and familiar essays like Leacock's, Cobb's, more rarely Lamb's or Irving's, for adults. More reading for this purpose is needed in schools.

3. *To enjoy "sudden changes and sharp contrasts"* ¹¹—positive excitement: reading stories of adventure and accounts of travel and peril, like *Robinson Crusoe*, the *Arabian Nights*, *Treasure Island*, du Chaillu's hunting adventures, accounts of the Japanese disaster.

4. *To get away from real life:* reading romances and pictures of impossible idealism such as Tennyson's *Sir Galahad* or Longfellow's *Excelsior*.

5. *To enjoy ready-made emotional reactions (via the "emotional short circuit"):* reading cheap sentimental verses and lurid and soft romances like the Elsie Dinsmore series and Barbour's cheapest tales, and stories

¹¹ E. L. Thorndike. *Educational Psychology*, I. pp. 141-143. New York: Teachers College, Columbia University, 1913.

of stupidly romantic love. Common as this reading is, it, of course, has no rightful place in school.

5. *To satisfy natural and valuable curiosities about human nature and motives*: reading excellent character portrayals in fiction, plays and verse such as Irving's, Shakespeare's, and Dickens'.

7. *To give pleasure to others*: reading aloud, as among friends after supper, most frequently from materials like those mentioned in 1, 3, and 6 above.

8. *To read aloud parts of plays and dramatic dialogue*: for enjoyment in class or preparation for further dramatization.

9. *To satisfy curiosity about animals, strange regions and times, and current happenings away from one's own environment*: reading encyclopedias, travel and nature books and magazines, histories and miscellaneous portrayals of new experience. Here the shift to purposive reading occurs often and very satisfactorily.

10. *To enjoy sensory imagery*: the pictures and odors, the feel and sound—less frequently the music and movement of poetry and poetic prose, sometimes by reading it aloud to one's self or by genuinely sharing pleasant experiences in discussing them with sympathetic friends. This is, of course, most often combined with purposes like those above. As a separate pursuit, it is to be distrusted. Enjoyment of this sort is rarely, if ever, furthered by analytical study.

Methods of realizing the aims of desirable types of recreational reading will be discussed in later sections of this report, particularly Chapter VI. The purpose of enriching life experience through literature, assumed in this report, is best presented in Chapter XVIII, "Reading as a Leisure Occupation," of Bobbitt's *The Curriculum*. See also Leonard's *Essential Principles of Teaching Reading and Literature*.

Summary statement. The discussions of this chapter have shown that reading is intimately related to most school activities, that intelligent reading is indispensable in modern life, that the amount of reading that is done is rapidly increasing, that a surprisingly large number of adults are unable to read or are not interested in reading, that children and adults read for a wide variety of useful purposes, each of which is characterized by appropriate attitudes and habits, and that reading activities may be roughly classified into work-type and recreational reading. In view of these facts, what are the objectives of reading that should be emphasized most vigorously in elementary- and high-school instruction?

CHAPTER II

ESSENTIAL OBJECTIVES OF INSTRUCTION IN READING

Current aims necessarily broad. As reading was formerly taught, its content and methods were determined largely by three aims, namely: to master the mechanics of reading, to develop habits of good oral reading, and to stimulate keen interest in, and appreciation of, good literature. This view may have been appropriate in former decades when social organization was less complex and when education was restricted largely to 'the three R's.' During recent years, however, social needs have changed, the curriculum has been reorganized, and the content of school courses has been greatly enriched. To-day, reading is essential to intelligent participation in the activities of modern life and it is vitally related to practically all classroom activities. It follows that current aims of reading should be correspondingly broad and should prepare pupils to engage effectively in all essential school and life activities that involve reading.

Outline of major objectives. A detailed study of the desirable reading activities of children and adults of the attitudes, habits, and skills that are involved has led to the adoption of three major objectives of reading. The first two are broad, comprehensive aims that are of first importance in the life of every child and adult. The third emphasizes desirable attitudes and essential habits and skills.

I. RICH AND VARIED EXPERIENCE THROUGH READING

The primary purpose of reading in school is to extend the experiences of boys and girls, to stimulate their thinking powers, and to elevate their tastes. The ultimate end of instruction in reading is to enable the reader to participate intelligently in the thought life of the world and appreciatively in its recreational activities. This objective emphasizes the importance of the content of what is read and attaches new significance to it.

There are two large values of wide experience gained through reading. The first¹ is its contribution to the broad, well-rounded

¹ Franklin Bobbitt, *Curriculum-Making in Los Angeles*, Chap. VI. Supplementary Educational Monographs, No. 20. Chicago: Department of Education, University of Chicago, 1922.

development of the reader. If wisely chosen, reading materials will extend the experiences of boys and girls, enlarge and correct their fund of information, and stimulate habits of good thinking. Much of the information needed to-day by a well-informed person must be secured through the reading of interesting accounts of the world and its people. As our social life becomes more complex, the need of rich and varied experience will be increasingly large. It is important that pupils recognize sooner or later the imperative need of keeping in touch with social progress and world problems through reading.

A serious weakness of reading instruction in former decades lay in the fact that the selections used were organized primarily for use in teaching pupils to read. In the future, reading should not only accomplish this purpose well, but in addition it should broaden the horizon of the reader and stimulate his interests and thinking powers. A forceful statement of the scope and value of such reading follows. A more detailed discussion of desirable types of reading materials appears in Chapter VII.

The reading that produces the greatest educational returns to young people is the reading of books chosen for their value in revealing the great fields of science, industry, history, biography, invention, travel, exploration, manners and customs in other lands, etc. When children are brought into contact with enough and good enough books of these sorts, life-long habits of intelligent reading become fixed. Moreover, there must be reading from newspapers and magazines for recreation, for social enlightenment, and for ideas, suggestions, and information with respect to vocations and civic problems.²

Wide experience does more than aid in the interpretation of life situations; it also contributes³ to the development of power to interpret effectively what is read. The fact is generally recognized that a reader of wide experience interprets what he reads far better than one of limited experience. As a rule, the associations which he makes are more numerous, vivid, and effective. If reading materials are selected with care, they supply boys and girls with wholesome attitudes and a rich fund of information which are essential in intelligent reading.

² Leonard P. Ayres and Adele McKinnie, *The Public Library and the Public Schools*, pp. 77-78. Cleveland: Survey Committee of the Cleveland Foundation, 1916.

³ E. L. Thorndike, "Reading as reasoning: a study of mistakes in paragraph reading," *Journal of Educational Psychology*, 8 (June, 1917), 323-332.

II. STRONG MOTIVES FOR, AND PERMANENT INTERESTS IN, READING

A second objective of reading instruction is to develop strong motives for, and permanent interests in reading that will inspire the present and future life of the reader and provide for the wholesome use of leisure time. This includes not only permanent interests in reading in a narrow sense of the term, but in addition keen interests in life, in the world and its people, a desire to keep posted concerning current events and social problems, and the habit of reading systematically for recreation and intellectual stimulation. The ultimate measure of the vitality of the reading experiences in school is the extent to which they lead to desirable interests, standards, tastes, and habits which carry over into life outside of school, such as interest in current events, in books and selections of genuine worth, and in the wholesome use of leisure time. The accomplishment of this aim makes it necessary to acquaint pupils with the sources and values of reading materials of both the work and recreational types, and to develop standards which may be used in selecting reading materials.

The importance of stimulating strong motives for reading is emphasized by the fact⁴ that thousands who learned to read in school read very little, if at all, as adults. Furthermore, a surprisingly large number of people state frankly that they are not interested in reading or that they do not know where to secure materials which they might care to read. If school systems are justified in spending millions of dollars each year in teaching pupils to read, it is imperative that permanent habits of reading be established in order to secure intelligent participation in personal and social activities for which society makes such generous provision. In this connection, special attention should be given to those pupils who learn slowly, who encounter unusual difficulties, or who fail to respond to the motives that appeal to most pupils.

III. DESIRABLE ATTITUDES AND ECONOMICAL AND EFFECTIVE HABITS AND SKILLS

An analysis of the characteristics of an effective reader shows that he follows appropriate steps in each reading situation, assumes

⁴ May Ayres Burgess, *The Measurement of Silent Reading*, p. 11. New York: Russell Sage Foundation, 1921.

desirable attitudes, and makes use of economical and effective habits and skills. A third aim of reading instruction, therefore, is to develop the attitudes, habits, and skills that are essential in the various types of reading activities in which children and adults should engage. Unfortunately, a complete classification of these attitudes, habits, and skills has never been made. A sufficient number have been distinguished, however, to enable teachers to recognize numerous teaching problems. They will be listed separately first under appropriate headings in order to emphasize their variety and specific characteristics. This outline will be followed by a discussion which shows that these habits and skills enter into various combinations to form the step or procedures appropriate to given reading situations.

1. *Important habits common to most reading situations.* An analysis of reading activities shows that certain habits, such as the recognition of words and the interpretation of typographical devices, are common to practically all reading activities. In the case of mature readers, such habits usually operate automatically. In the early stages of instruction and in diagnostic and remedial cases, they must be given specific attention to insure rapid progress. These habits may be classified into four groups.

(a) The first group relates to the recognition of sentences as units of thought and to the anticipation of the sequence of ideas in different types of sentences. Mature readers should be able to recognize with ease and rapidity the meaning of statements that are more or less complex and involved. In the case of children who have acquired good language habits, sentence form and structure present few or no difficulties in reading. To non-English speaking children and to those whose homes provide few or no educational advantages, language difficulties present serious problems. Even brighter children have difficulties in interpreting such language forms as the double negative and the conditional clause.

(b) The second group of habits relates to the recognition of words and groups of words and has been distinguished by Buswell⁵ for both oral and silent reading as follows:

Accurate recognition.

⁵ Gay T. Buswell, *Fundamental Reading Habits: A Study of Their Development*, Chap. II. Supplementary Educational Monographs, No. 21. Chicago: Department of Education, University of Chicago, 1922.

Rapid recognition.

A wide span of recognition.

Regular progress of perception along the lines.

Accurate return sweeps from the end of one line to the beginning of the next.

A characteristic difference between rapid and slow silent reading is the rapidity with which meanings are recognized and assimilated. A slow reader recognizes a relatively small unit of a line at each fixation and proceeds slowly and often irregularly from left to right. A rapid reader, on the other hand, recognizes a large unit at each fixation and progresses regularly and rapidly from left to right along the lines. In skimming, only parts of a passage are recognized, the units to which attention is directed being consciously or unconsciously selected by the reader according to his purpose. The additional fact should be recognized that the speed of both slow and rapid readers varies materially with the purpose of reading.

In oral reading, both meanings and pronunciations must be recognized. This may require a study of the context, the phonetic analysis of monosyllabic words, and the analysis of polysyllabic words for meaning or pronunciation, or both. Oral reading also includes habits of accurate enunciation and pronunciation. In silent reading, the recognition of the pronunciation of words is usually not necessary. If, however, the reader wishes to use orally the words which appear in the passages read, effective use must be made of habits of word recognition and pronunciation. There is danger that teachers who are interested primarily in teaching pupils to read silently may fail to develop sufficient accuracy and independence in word recognition. There is even greater danger that teachers interested primarily in oral reading will overemphasize word recognition and pronunciation.

(c) A third group of habits common to most reading situations relates to the recognition and interpretation of typographical devices, such as punctuation, paragraphing, indentation, italics, marginal or paragraph headings, and references to footnotes or the appendix. Pupils must acquire, sooner or later, the habit of recognizing these cues to meaning and must learn to interpret them quickly and accurately.

(d) A fourth group of habits which should be established early

relates to such matters as holding the book correctly at the right distance from the eyes, securing proper light, and retaining a good sitting or standing position while reading.

2. *Habits of intelligent interpretation.* The intelligent interpretation of what is read is a problem of first importance and must be emphasized vigorously in every grade. It includes a clear grasp of the meaning of passages, an understanding of the thoughts, sentiments, and ideals expressed, and the arousal of appropriate emotional attitudes. In other words, it is a form of clear, vigorous thinking, involving the formation of numerous valuable associations. It presupposes keen interest in what is read and a strong impelling motive. In simpler types of reading, it includes also the following attitudes and habits:

- Concentrating attention on the content.
- Associating meanings with symbols.
- Anticipating the sequence of ideas.
- Associating ideas together accurately.
- Recalling related experiences.
- Recognizing the important elements of meaning.
- Deriving meanings from the context and from pictures.

In more complex forms of interpretation, various mental processes are involved. Some of these are not essential to interpretation in a narrow sense of the term, but are required when reading for specific purposes. An outline of these important habits or processes follows:

- Analyzing or selecting meanings; for example,
 - to select important points and supporting details
 - to find answers to questions
 - to find materials relating to a given problem
 - to determine the essential conditions of a problem

- Associating and organizing meanings; for example,
 - to grasp the author's organization
 - to associate what is read with previous experience
 - to prepare an organization of what has been read

- Evaluating meanings; for example,
 - to appraise the value or significance of statements
 - to compare facts read with items of information from other sources
 - to weigh evidence presented
 - to interpret critically

Retaining meanings; for example,
to reproduce to others
to use in various specific ways.

One of the requirements of good interpretation is the recognition of the purpose of reading and the use of appropriate habits. It is essential, therefore, that instruction provide training in reading numerous types of material for various purposes until appropriate habits and reading procedures have been fully established.

3. *Effective oral interpretation of selections to others.* Studies of the uses made of reading in school and in modern social life show that there are many valuable uses of oral reading in the classroom, at home, and in public. It follows that pupils should be taught to read to others effectively. In making this recommendation, however, the committee recognizes the fact that oral reading is far less important than intelligent silent reading and should require much less time and energy than has been given to it in the past.

Effective oral reading presupposes a mastery of the fundamental habits described in 1, above, including accurate pronunciation and clear enunciation, and of the habits of intelligent interpretation described in 2. It also includes the following important attitudes, habits, and skills:

A definite motive for reading.

A sympathetic regard for the listener.

A clear understanding of the meaning and purpose of a selection.

A sense of the importance of the message.

Clear oral presentation of thought relationship.

Adjustments to, and the expression of changes in, character and mood presented in the subject matter.

Vocal adjustments to the rhythm of poetry.

Appropriate gesture and facial expression, subordinated to the thought of the selection.

Controlled bodily movements and breathing.

Keeping the entire reading situation clearly in mind and making necessary adjustments from time to time.

Confidence in one's own ability.

4. *Skillful use of books, libraries, and sources of information.*

Wide reading, both of the recreational and the work types, can be pursued to advantage only when readers use books and sources of information skillfully and intelligently. It follows, therefore, that one of the important obligations of teachers of reading is to develop

skill in the use of printed materials and sources of information. Satisfactory results presuppose keen interest on the part of pupils in keeping materials clean and orderly and in learning to use books and sources of information effectively. Important habits and skills which should be developed are listed in the following outline:

(1) In the use of books and sources of information

Keeping books clean and neat.

Opening books and turning pages carefully.

Skillful use of preface, index, table of contents, chapter and paragraph headings, keys, tables, graphs, glossary, appendix.

Effective use of dictionary

in finding words,

in deriving pronunciations,

in selecting appropriate meanings.

Effective uses of sources of information

in finding references quickly.

(2) In the use of libraries

Effective use of library privileges and aids, including card files, bound volumes of periodicals, reader's guides, bibliographies.

Technique of withdrawing and returning books.

In addition, it is necessary to train pupils to ascertain the reliability of printed material and to prejudge and select books intelligently for specific purposes. Some of the points which must be considered in this connection are the date of publication, the position or standing of the author, the nature of the evidence presented, and the character of the author's interpretations.

Appropriate procedures in given reading activities. The fact was emphasized earlier that attitudes, habits, and skills enter into various combinations to form the steps or procedures appropriate in given reading activities. For example, when one reads a selection silently to secure a clear grasp of its meaning, he directs attention to the content, he associates meanings with symbols, he associates the elements of meaning into related wholes. he recognizes the relative importance of ideas, he studies the context or other sources for meanings which are not familiar, he analyzes the content of what he reads, he weighs values and makes judgments, and he fixes in mind those meanings which are of value to him. On the other hand, when one reads aloud to others a passage with which he is

quite familiar, he considers the importance of the message to his audience, the specific results which should be secured through reading, and the steps by which those results can be produced most effectively. When reading aloud, he recognizes groups of words accurately and pronounces them clearly and distinctly, he gives a clear oral presentation of the thought, he adjusts his manner of presentation to changes in the character and mood of the selections, he controls his facial expression, bodily movements, and breathing in order to secure the most desired results, and he observes his audience carefully from time to time to determine needed adjustments.

These examples make it clear that different attitudes, habits, and skills are used in different reading situations. It follows that one of the major responsibilities of the school is to train pupils to adopt appropriate procedures in given reading activities. The fact should be remembered, however, that the procedures adopted and the specific attitudes, habits, and skills, that are involved are intimately related and must be developed simultaneously. When preparing to present a unit of work, teachers should make a careful study of the purpose of the reading exercise, the steps by which it can be accomplished most effectively, and the essential attitudes, habits, and skills that are involved. It is also necessary to determine which of the essential steps or habits have been thoroughly mastered, which will need additional drill, and which are new and will need special emphasis. Furthermore, individual differences must be considered and provision made for children at different levels of advancement. In order to describe the problems involved more concretely, an analysis⁶ of one reading situation for a sixth-grade class is included. Procedures appropriate for other situations are suggested in Chapter V.

Situation: Reading of a series of references to prepare a report on child life in Holland.

Prerequisites:

1. Keen interest in the problem.
2. A sufficient mastery of fundamental habits to engage in independent reading of available materials.
3. Ability to interpret the materials assigned and to make use of the information presented.

⁶ For a similar analysis, see H. C. Hill and R. L. Lyman, *Reading and Living*, Book II, pp. 245-246. New York: Charles Scribner's Sons, 1924.

4. Power of sustaining and directing effort until the problem has been solved.

5. Ability to use index and make notes.

Initial step: A clear recognition of the problem to insure an accurate understanding of the purpose of the reading activity undertaken.

Second step: Selecting materials.

1. Collect all available sources in order that nothing pertinent to the problem may be disregarded.

2. Ascertain from the table of contents or index the amount and location of relevant materials.

3. Scan the material rapidly to determine its usefulness.

4. Select the material to be studied by considering the problem, its importance, and the amount of time that may be devoted to it.

5. Classify the selected references into two or more types: (a) those of a general nature to be read rapidly for background purposes; and (b) those making specific contributions, and therefore requiring more careful reading.

Third step: Reading and assimilating.

1. Read rapidly the background references to secure a basis for understanding the more specific references.

2. Read more carefully the references making specific contributions.

3. Select the items of information which bear directly on child life in Holland and which are worth presenting to the class.

4. Make brief notes or references concerning important points.

5. Go over the important items of information in order to develop a comprehensive picture of the essential facts.

Fourth step: Organizing the material.

1. Analyze the information obtained and classify it under appropriate headings. In this connection make free use of the notes and references made while reading.

2. Refine this analysis until the major facts and the important details are summarized in an effective outline. Frequent rereadings of references may be necessary.

3. Critically scrutinize this outline, making such revisions as seem desirable.

Fifth step: Fixing the outline in mind and preparing the oral report.

1. Go over the organization until its essential points are clearly in mind, if it is to be presented without the use of notes.

2. Review the facts relating to each important item until they can be presented clearly and coherently.

3. Practice giving the report as a whole until it can be given effectively with or without notes as the occasion demands.

Variations in procedure. The steps which have been outlined apply to a given situation. They should be modified to meet different con-

ditions. For example, the problem should be limited to brief topics in the lower grades; the materials assigned should be very simple; definite help should be given to the pupils in finding references; fewer notes should be required; and less well-organized and complete reports should be expected. In the upper grades the problem may be broader; more individual initiative and responsibility should be expected; the selection of materials may require the wider use of books, card indexes, and readers' guides; pupils should work more rapidly and interpret more critically; their organizations should be more appropriate for the purpose at hand; and their presentations longer and more effective.

Furthermore, provision should be made for individual differences among pupils within a group. The materials assigned to brighter pupils may be richer in content and more difficult; more initiative and independence should be expected; and more complete, more detailed, and better organized reports may be required. For pupils who learn slowly, the problem should be simplified; the materials assigned should be easier; more encouragement and guidance is usually necessary, and less complete and well-organized reports should be required. It is imperative that the teacher make careful studies of the accomplishment and needs of her pupils and provide training in each important reading situation which will lead to maximal progress on the part of all.

CHAPTER III

A MODERN PROGRAM OF READING INSTRUCTION FOR THE GRADES AND THE HIGH SCHOOL

Purpose of Chapter. The first chapter of this report presented important facts concerning reading in modern social life and described various types of reading activities in which children do, and should, engage. The second chapter directed attention to three major objectives of reading instruction and outlined desirable procedures in specific reading situations. This chapter outlines a modern reading program which, it is believed, will provide rich experience through reading, inculcate strong motives for reading, and develop essential reading attitudes, habits, and skills. The major divisions of such a program, based on periods of development in reading ability, will be distinguished first. More detailed information will then be presented concerning the purpose, organization of instruction, and desirable levels of achievement for various school grades.

It is not intended that the reading program recommended in this report should be followed rigidly by any group of teachers. The fact is clearly recognized, on the other hand, that each school system should organize courses of study adapted to its specific needs. It is hoped, however, that the recommendations which are made may suggest important problems which should be considered by school officers and teachers in their efforts to reorganize and improve reading instruction.

A. IMPORTANT DIVISIONS OF A READING PROGRAM

Characteristics of pupil progress. A careful study of the progress of children in reading shows that they pass through different stages of development in acquiring mature habits. For example, Buswell¹ found that the span of recognition increases rapidly in the case of most pupils during the first four school years. Similar periods favorable to rapid growth have been found for other phases of reading. Good instruction recognizes the importance of these growth periods and provides appropriate training at each stage of development.

¹ Guy T. Buswell, *Fundamental Reading Habits: A Study of Their Development*, p. 28. Supplementary Educational Monographs, No. 21. Chicago: Department of Education, University of Chicago, 1922.

Growth periods in specific phases of reading. The studies of growth in the fundamental reading habits that have been published are based on the results of instruction as it is now given in representative schools. It follows that conclusions based on such records must be tentative and subject to revision from time to time. Furthermore, accurate records are available concerning growth periods for only a few of many important phases of reading. Nevertheless, there is abundant evidence that the summary statements which follow merit careful consideration in planning a valid reading program.

Intelligent interpretation of what is read. Ability to interpret simple passages accurately increases rapidly in the lower grades and may reach a very high level of efficiency by the end of the third grade.² It is very important that provision be made for cultivating from the beginning the attitude of looking for meanings in all reading experiences.

Speed of interpreting simple passages increases rapidly and somewhat uniformly throughout the first six grades, and not infrequently in the higher grades, as shown by the standard scores for the Burgess Scale for Measuring Silent Reading Ability. Special attention may be given to this phase of reading throughout the elementary-school grades.

Ability to interpret passages of increasing difficulty develops with steady and even progress throughout the grades and the high school, as shown by the standard scores for the Monroe Silent Reading Tests and the Thorndike-McCall Tests. Similar statements³ may be made concerning the development of interpretation as measured by answers to questions and by reproductions. It follows that problems relating to the interpretation of passages of increasing difficulty and to interpretation when reading for specific purposes are of large importance in every grade above the first.

Speed of silent reading. Speed of reading increases rapidly throughout the first four grades and continues to increase steadily

² William S. Gray, "The use of tests in improving instruction," *Elementary School Journal*, 19 (October, 1918), p. 127.

³ William S. Gray, *Studies of Elementary-School Reading through Standardized Tests*, p. 146. Supplementary Educational Monographs, Vol. I, No. 1. Chicago: Department of Education, University of Chicago, 1917.

but less rapidly during the next four.⁴ The progress made in some schools indicates that pupils may attain a relatively high speed of reading as early as the fifth or sixth grade. The fact should be emphasized in this connection that effective habits of interpretation are of first importance and must be maintained as speed increases.

The fundamental habits involved in speed of silent reading, such as the accurate and rapid recognition of words and groups of words, increase rapidly during the first four grades.⁵ There is normally very little development in the span of recognition after the fourth grade. The rate of recognition continues to increase during the fifth and sixth grades. There is some improvement in the rhythmic progress of the eyes along the lines as late as the first year of the high school.

Reasonable speed in silent reading may be cultivated from the beginning. Special emphasis on speed of silent reading is appropriate as soon as pupils have established good habits of interpretation and can read simple material with ease and accuracy. The time at which this stage of development is reached varies from the second grade to the fourth in different schools and with different groups of children. Excessive emphasis on oral reading and failure to provide incentives to reasonable speed in silent reading during the elementary grades may result in the permanent establishment of habits of slow reading. Investigations⁶ show, however, that the speed of reading may be increased in the upper grades.

Fluent accurate oral reading. Progress in the rate and accuracy of oral reading is very rapid in the primary grades and gradual, but far less rapid, in the upper grades.⁷ By the end of the third grade, good readers have acquired four fifths of the average ability

⁴ William S. Gray, *Studies of Elementary-School Reading through Standardized Tests*, p. 145. Supplementary Educational Monographs, Vol. I, No. 1. Chicago: Department of Education, University of Chicago, 1917.

⁵ Guy T. Buswell, *Fundamental Reading Habits: A Study of Their Development*, Chap. II. Supplementary Educational Monographs, No. 21. Chicago: Department of Education, University of Chicago, 1922.

⁶ J. A. O'Brien, *Silent Reading*, Chap. VIII. New York: Macmillan Co., 1921.

⁷ William S. Gray, *Studies of Elementary-School Reading through Standardized Tests*, p. 143. Supplementary Educational Monographs, Vol. I, No. 1. Chicago: Department of Education, University of Chicago, 1917.

of college students, as measured by the Standardized Oral Reading Paragraphs. The explanation for this noteworthy accomplishment lies in the fact that there is a very rapid progress during the first four grades in the fundamental habits involved in oral reading, such as accurate and rapid recognition, a wide span of recognition, rhythmical progress of the eyes along the lines, and a wide eye-voice span.⁸ Some progress occurs above the fourth grade in each of these elements.

These facts indicate that rapid progress in fluent, accurate oral reading is appropriate in the first three grades. Instruction should also be provided in more advanced grades for pupils who have not made satisfactory progress or who encounter unusual difficulties. In the case of certain retarded pupils who are easily embarrassed or who encounter serious language difficulties, little or no oral reading should be required.

No reference has been made here to growth in the artistic or expressive phases of oral reading. This omission is due solely to the fact that records of growth periods are not available. The social values of interpretative oral reading have been considered, however, in organizing the program of instruction which follows.

Important divisions of a reading program. Records of the normal progress of children in fundamental reading habits and studies of their interests, accomplishments, and needs in other phases of reading justify the organization of a reading program into five important periods or divisions. These periods will be distinguished briefly at this point. A detailed statement of the types of progress appropriate during each period, the purposes and organization of instruction, and desirable forms of achievement will be presented in later sections.

1. *Period of preparation for reading.* This period includes the pre-school age, the kindergarten, and frequently the early part of the first grade. Its primary purpose is to provide the training and experience which prepare pupils for instruction in reading.

2. *The initial period of reading instruction.* The most important purposes of this period are to introduce pupils to reading as a

⁸ Guy T. Buswell, *Fundamental Reading Habits: A Study of Their Development*, Chap. II. Supplementary Educational Monographs, No. 21. Chicago: Department of Education, University of Chicago, 1922.

thought-getting process and to develop ability to read independently and intelligently very simple passages such as are found in the first readers in common use.

3. *The period of rapid progress in fundamental attitudes, habits, and skills.* The distinguishing characteristic of this period is rapid development of the attitudes, habits, and skills on which intelligent interpretation, fluent, accurate oral reading, and rapid silent reading depend. Appropriate instruction is provided in the second and third grades, and frequently in the fourth grade.

4. *The period of wide reading to extend and enrich experience and to cultivate important reading attitudes, habits, and tastes.* The essential purposes of this period are to extend the experiences of pupils, to quicken their thinking powers, to cultivate a wide variety of interests and tastes in reading, to develop speed in silent reading, and to lay the foundation for study habits. Instruction should also be provided to improve oral reading after habits of silent reading have been well established. This period usually includes the fourth, fifth, and sixth grades.

5. *The period of refinement of specific reading attitudes, habits, and tastes.* During this period, reading and study habits are refined in each content subject as well as in the literature period. Wholesome interests in reading, the habit of reading current events and books and magazines of real worth, the sources of different types of reading materials, and standards of selection are emphasized. Appropriate instruction is provided in the junior and senior high school grades.

Three important cautions. Three significant cautions should be offered concerning any use that is made of suggested divisions into which a reading program may be organized. The first is that only the most important characteristics of each period have been described. Phases of instruction which were emphasized in the statements concerning one period and omitted in the statements concerning other periods should receive more or less emphasis in each period. All phases of instruction which should be emphasized in each period will be discussed in later sections. The second caution is that the pupils of a given grade or class probably belong to two or even three different stages of progress and therefore have a great variety of needs. The third is that a given pupil may be at one stage

of progress in some phases of reading and at different stages of progress in other phases. For example, a third-grade pupil may read very fluently, but may fail to interpret simple selections accurately. Therefore, the suggested division should not be used as a basis for rigid classification. They should serve, on the other hand, as aids to teachers in recognizing and defining the larger problems of teaching.

B. EXPERIENCE AND TRAINING WHICH PREPARE PUPILS FOR READING Kindergarten and Early Part of First Grade

Purpose. The purpose of this section is to describe the kinds of experience and training which prepare pupils for reading and to discuss briefly methods and materials which can be used in providing the preliminary training that is needed. The major part of this instruction should be given in a kindergarten which provides a rich and varied course of study. It will be necessary, however, for many first-grade teachers to provide similar types of training for pupils entering that grade who are not prepared for reading. In a large majority of such cases the instruction needed is very similar to that outlined in this chapter for kindergarten children.

Importance of training which prepares for reading. The child who becomes interested in reading at any age does so because of previous experiences in the home or at school. For example, he may have looked at the pictures in attractive books provided for him. His parents or teachers may have read or told stories to him from these books. They may have encouraged him to find out stories for himself by studying the pictures that illustrate them. He may have discussed these stories with his playmates, thereby gaining facility in the use of ideas, a relatively wide vocabulary, and habits of good expression. In these ways, as well as through experiences which do not include books, parents and teachers stimulate interest in reading and provide for the development of habits which are essential to rapid progress. On the other hand, many children who do not have such advantages, and some who do, spend all their time in whatever way fancy directs. Consequently, they are not attracted to reading as a form of activity. When these children enter the first grade, their preparation for, and attitude toward, reading differ widely from those of children whose activities have been carefully directed.

Prerequisites to reading. Six kinds of experience and training, essential to rapid progress in reading, may be described briefly in terms of the contributions which they make to child development.

1. Wide experience, provided in harmony with the interests of children and preparing them to understand the stories and activities about which they will read.

2. Reasonable facility in the use of ideas; that is, ability to make use of past experience and information in conversation, in solving simple problems, and in thinking clearly about the content of what they read.

3. Sufficient command of simple English sentences to enable pupils to speak with ease and freedom. This in turn aids them in anticipating the meaning of passages and in reading fluently.

4. A relatively wide speaking vocabulary which enables them to recognize quickly the meaning of words and groups of words.

5. Accuracy in enunciation and pronunciation which insures right habits in the first reading experiences and eliminates the need of corrective exercises later.

6. A genuine desire to read, which aids in the interpretation of passages and which supplies motives that carry pupils through many difficult periods.

Conscious attention at home and in the kindergarten to the six types of training which have been enumerated promotes growth that makes reading a natural and desirable activity in the first grade. The omission of such training may result in the postponement of the time when pupils are adequately prepared to learn to read. With rare exceptions, formal instruction in reading should be postponed until satisfactory progress has been made along the lines which have been described.

Methods of providing essential training and experience will now be considered.

Providing wide experience. Kindergarten and primary teachers should provide a wealth of interesting, vivid experiences about the home, the community, animals, flowers, trees, and the common relations of group and community life. Various group activities should be organized, such as gardening, caring for pets, building bird houses and constructing playhouses. Appropriate activities are detailed in Chapter VII. The pupils should be encouraged to discuss

such experiences freely and to add rapidly to their stock of ideas. The larger the number of interesting experiences which they encounter, the broader will be their background for the interpretation of what they read. The statement should be added that the value of these experiences depends largely on the accuracy with which they duplicate simple life situations. Numerous opportunities for extending and enriching the experiences of kindergarten pupils are described in detail in the following references:

S. C. Parker and Alice Temple, "Unified kindergarten and first-grade teaching," *Elementary School Journal*, 24 (September, 1923, through March, 1924) 13-27, 93-103, 173-183, 253-269, 333-347, 413-429, 493-506.

Patty Smith Hill, *A Conduct Curriculum for the Kindergarten and First Grade*. New York: Charles Scribner's Sons, 1923. Pp. xxiv-124.

Lalla H. Pickett and Duralde Boren, *Early Childhood Education*. Yonkers-on-Hudson, New York; World Book Co., 1923. Pp. viii-220.

A Kindergarten-First-Grade Curriculum. Bureau of Education Bulletin No. 15, 1922. Washington: Bureau of Education. Pp. viii-66.

Simple stories, poems, and songs form a second source of valuable experience. If pupils talk about the experiences described in stories, they become familiar, not only with their content, but also with their forms of expression. Drawing or illustrating facts or events which are described also results in a clearer understanding of them. These activities prepare the way for good interpretation when children read independently along related lines in the primary grades. A list of stories appropriate for kindergarten children has been prepared by the Literature Committee of the International Kindergarten Union and may be secured from Miss May Murray, 1008 Investment Building, Washington, D. C.

Training pupils to use ideas. Well-planned construction lessons, play activities and discussions of the problems in which the children are interested provide excellent training in the use of ideas. To the extent that pupils consider carefully the problems under discussion, plan the steps which are necessary in realizing their purposes, and improve and refine their methods of work, they are developing good habits of thinking. The skillful teacher encourages pupils to discuss the problems on which they are working, their experiences at home and on the street, the care of their pets, and the stories which they have heard. These discussions frequently begin with problems the solution of which provides opportunity to recall related experiences, to select relevant points, to weigh values, to organize ideas, and to make judgments. They often end with an assignment which leads

pupils to check the accuracy of their statements or to put their ideas into action, as in a dramatization. The interesting units of work and the thought-provoking discussions provided in kindergartens or first grades which have enriched curricula, are of great value in developing habits of good thinking. These in turn are essential to thoughtful interpretation in reading.

Training pupils in the use of English. The various activities which have been described require the frequent use of oral expression and provide excellent opportunities for establishing good habits. In addition, a special period, usually known as a conversation period, should be organized for the free exchange of ideas and for exercises which extend and refine the language habits of children. In this connection the following guiding principles should be observed:

(1) Provide abundant opportunity for pupils to talk freely about matters in which they are keenly interested.

(2) Secure freedom and spontaneity in speaking at all times. Avoid the restraint that results from frequent criticisms.

(3) Provide real motives for speaking and genuine audience situations.

(4) Encourage pupils to speak freely and naturally, at first in relatively short units, if necessary. Later aid them in presenting longer series of ideas in good sequence.

(5) Encourage pupils to use whatever new words fit naturally into class discussions and activities.

(6) Present good models of enunciation and pronunciation at all times.

(7) Depend primarily on the imitation of right models in correcting and refining the speech habits of pupils.

Stimulating a desire to read. Keen interest in reading develops naturally from experiences which reveal to pupils that reading contributes to their pleasure and satisfaction. For example, teachers may read or tell interesting stories that please and entertain the children. Favorite Mother Goose pictures may be hung about the room with the appropriate rhymes attached. If one or more of the kindergarten children have learned to read a few simple sentences, they may be permitted to read them to their classmates. This in-

variably creates a desire to read on the part of those pupils who are eager to gain distinction and approval.

The use of incidental reading activities also stimulates keen interest in reading. For example, the names of the pupils appear on the lockers, tables, and chairs in many classrooms. Crayon boxes are labeled with the names of the colors which they contain. Signs appear about the building and brief directions are placed on the blackboard by the teacher. Not infrequently, brief passages are printed or hectographed in large letters and copies given to the pupils. A library table in one corner of the room provides interesting picture books which are enjoyed frequently by groups of children, under the direction of the teacher. Pupils are also encouraged to make use of these books during periods when they may select individually the activities of their choice. By the end of the kindergarten period every child of average ability should be keenly interested in learning to read and should have participated in a large number of informal reading activities.

Inadvisability of formal instruction in reading in the kindergarten. Because a great wealth of training and experience should be provided for children of kindergarten age, formal instruction in reading should not be given to most pupils before they enter the first grade. On the other hand, pupils who are of superior native capacity, who have made rapid progress in practically all kindergarten activities, and who express a strong desire to learn to read may engage in simple reading activities during the last few months of the kindergarten period. These activities should grow out of, and should be intimately related to the experiences in which the pupils are most interested.

Before formal instruction in reading is begun, vision and hearing tests should be given to all children, such as the McCallie Vision Tests and the whisper test for hearing. If defects are discovered, appropriate corrective steps should be taken at once. In this connection, it is imperative that the services of eye and ear specialists be provided. Delay in correcting defects may result in permanent disability in reading.

C. CLASSIFICATION OF FIRST-GRADE CHILDREN

Wide differences among pupils entering the first grade. The fact has been emphasized that children who enter the first grade differ

widely in training and experience. Some come from homes or kindergartens fully prepared for instruction in reading. Indeed, not a few have already made considerable progress in learning to read. On the other hand, many pupils enter the first grade who are not adequately prepared for reading. A majority of this group need training similar to that outlined for kindergarten children which will extend their experience, develop habits of good thinking, improve their use of oral English, increase their vocabularies, improve and refine their enunciation and pronunciation, and stimulate keen interest in reading. Some pupils need training along only one or two lines; others need it along several lines. In either case, appropriate instruction should be provided before formal work in reading is introduced. The amount of time which should be devoted to such preliminary training varies from a few weeks to several months, depending upon the extent of the pupils' deficiencies.

A large number of children enter the first grade unable to speak English. Too frequently they are assigned to reading classes immediately and are required to learn to recognize and pronounce words which have no meaning to them. This procedure is adopted by some schools in the hope that the children will acquire language habits through participation in reading activities. The procedure should be reversed. Pupils who are unable to speak English should receive a sufficient amount of language training before formal instruction in reading is introduced to give them command of simple English sentences, to develop an oral vocabulary more extensive than the vocabulary of the early reading lessons, and to establish habits of accuracy in pronunciation and enunciation.

Differences in capacity to learn. The problem of teaching reading to first-grade children is further complicated by the fact that they differ widely in mental age. Dickson⁹ has shown that first-grade pupils vary in mental age from three years to ten in some school systems, and that those whose mental ages are lower than six years usually fail to do first-grade work satisfactorily. Theisen¹⁰ followed the progress of first-grade children in reading and found that the

⁹ Virgil E. Dickson, *Mental Tests and the Classroom Teacher*, Ch. VI. Yonkers-on-Hudson, New York: World Book Co., 1923.

¹⁰ W. W. Theisen, "Does intelligence tell in first-grade reading?" *Elementary School Journal*, 23 (March, 1923), 531.

pupils who ranked high mentally made from three to ten times the amount of progress made by pupils who ranked low in the mental tests. Studies made in Detroit¹¹ indicate clearly that pupils of superior mental capacity who are unable to speak English or who are not adequately prepared for reading overcome their handicaps much more rapidly than pupils who rank low in mental tests.

Need of classifying pupils at the beginning of the first grade. Since children who enter the first grade differ widely in capacity to learn, in experience, and in training, it follows that their preparation for reading is notably different. In order to provide appropriate instruction for them they must either be taught individually or in groups which are more or less homogeneous. Where the latter plan is followed, pupils should be classified as accurately as possible. Furthermore, the individual needs of pupils within each section should be studied carefully and appropriate training provided at frequent intervals for small groups or for individuals as the situation demands.

Method of classifying pupils. At least three types of information are desirable at the beginning of the first grade in classifying pupils. The first relates to their capacity to learn. For this purpose many schools give the Stanford Revision of the Binet-Simon Intelligence Tests. If the use of an individual test is not practicable, one of the following group intelligence tests may be used: Pressey's Primary Classification Test; Dearborn's Group Test of Intelligence, Series I; Haggerty's Intelligence Examination, Delta I; Otis Group Intelligence Scale, Primary Examination; Cole and Vincent's Group Intelligence for School Entrance; the Detroit First-Grade Intelligence, or the Pintner-Cunningham Primary Mental Test. The results of one or more such tests should be supplemented by information concerning a child's home, his parents, his nationality, the condition of his health, physical defects, emotional and volitional traits, and his social adaptability. A third type of information relates to the extent and scope of his previous training, the general range of his experience, the facility with which he uses ideas, the extent of his vocabulary, his use of oral English, the accuracy of

¹¹ Eliza H. Oglesby, "A study of achievements in reading in X, Y, and Z groups." *Detroit Journal of Education*, 2 (April, 1922), pp. 58-63.

his enunciation and pronunciation, his attitude toward pictures, stories, and books, and his desire to learn to read.

Various plans have been followed in securing the information that is needed; (a) In some schools it is collected during the kindergarten period, recorded on individual cards and passed on to the first grade with comments and suggestions by the teachers. This plan makes possible the classification of pupils in the first grade as soon as group intelligence tests have been given. (b) In other schools individual or group mental tests are given in the kindergarten, and the pupils are classified on the basis of these scores when admitted to the first grade. Changes in their classification are made later if teachers secure evidence to justify them. The children who have not had kindergarten training are given group intelligence tests on entering school and are assigned to classes on the basis of the test scores until more detailed information can be secured. (c) In still other schools all pupils are given group intelligence tests on entering the first grade and are temporarily assigned to classes on the basis of the mental-test scores. A week or more is then devoted to oral exercises and interesting group activities in order to secure information concerning the accomplishments, needs, and characteristics of each pupil. The information secured in this way is recorded on individual cards and passed on to the teachers to whom the pupils are finally assigned.

Groups recommended for large schools. It is impossible to suggest a scheme of classification which is equally well adapted to conditions in all schools. The plan has been adopted, therefore, of distinguishing five types of pupils who present characteristic teaching problems. It will be necessary for each school to study the needs of its pupils carefully and to classify them into appropriate groups.

1. English-speaking children who are not prepared for reading may be grouped together for preliminary training similar to that recommended for kindergarten children. Group instruction should be supplemented by provision for specific training adapted to the needs of individual pupils. As soon as pupils are prepared for reading, they should be put in a section which is beginning that subject. The fact should be remembered that pupils of high native intelli-

gence overcome their deficiencies much more quickly than pupils of low intelligence.

2. Children who cannot speak English present special problems and should be grouped together for appropriate instruction in oral English. Provision should be made for these pupils to engage frequently in language activities and group exercises with English-speaking children in order that they may have the advantage of such contacts. Foreign-speaking children who learn rapidly may begin reading earlier than those who learn slowly.

3. Children who are prepared for instruction in reading should be grouped together in one or more sections and be given systematic training. If there is more than one section of such pupils, they may be grouped to advantage on the basis of their capacity to learn. Special consideration should be given to the needs of those pupils who learn slowly, in order to insure the development of right habits and reasonable progress.

4. Pupils who have learned to read at home or in the kindergarten and who give evidence of adequate preparation for additional training should be grouped together and provided with reading activities at an appropriate level of advancement.

5. Pupils who are repeating the work of the first grade should be assigned to a special group where individual attention may be given to their needs. As their difficulties are overcome, they may be transferred individually to sections that are doing work at levels which correspond to their own advancement.

Frequent transfers from one section to another necessary. The classification or grouping of first-grade children for the purpose of instruction in reading should be effected with a clear realization that pupils advance at different rates of progress and that frequent changes will be necessary. Each teacher should therefore study the progress of her pupils and recommend changes in their classification as soon as there is evidence to justify them. If for any reason desirable changes cannot be made, individual help should be provided for pupils who encounter difficulty.

Groups recommended for small schools. In schools which provide only two first-grade sections, the kinds of groups which are organized will vary with the needs of the pupils. In some schools, it may prove desirable to assign all who are prepared for reading to one

section, and those who need preliminary training to the other. As the work goes forward in each section, the group instruction provided should be supplemented with ample provision for individual needs.

In rural schools and in other schools which have only one first-grade section, the pupils should be classified into small groups, if possible, and given appropriate instruction. For example, two or three pupils may begin systematic work in reading; another group may need language and vocabulary training; still another group may need constructive activities to train them in the use of ideas. If this plan cannot be followed, systematic work in reading should not begin until a majority of the pupils are fully prepared for it. Furthermore, the group instruction which is provided should be supplemented with wide provision for individual needs. It is very important that teachers of small schools make detailed studies of the accomplishments and needs of their pupils, similar to those described for large schools.

D. INITIAL PERIOD OF READING INSTRUCTION

General purpose and duration of initial period. The general purpose of early training in reading is to stimulate keen interest in reading activities, to cultivate a thoughtful reading attitude, and to develop reasonable speed and accuracy in reading simple passages. The time at which systematic training begins and the duration of the initial period vary with the preparation of pupils and with their capacity to learn. Experience teaches that a majority of first-grade pupils are prepared for reading at the beginning of the first grade or very early in the year, and are able to complete satisfactorily all requirements of the initial period by the end of that grade. For many pupils, however, reading should not be introduced for several weeks or months after they enter school. In such cases the type of training discussed in this section should often be continued well into the second grade.

Normal types of development during the initial period. A study of the development of children during this period reveals evidence of progress in the following phases of reading: (a) rapid progress in associating meanings with written or printed symbols; (b) the early development of a thoughtful reading attitude; (c) rapid prog-

ress in interpreting simple passages, in securing new experiences through reading, and in enlarging the meanings of familiar words; (d) the acquisition of a sight vocabulary of several hundred words and the development of independence in the recognition of simple words; (e) rapid progress in establishing fundamental habits,¹² such as speed and accuracy in recognizing words, a wide span of recognition, regular progress of perception along the lines, and accurate return sweeps of the eyes from the end of one line to the beginning of the next.

Three successive problems of teaching. In order to secure rapid progress in the development of important reading attitudes, habits, and skills, the instruction provided may be organized to advantage in terms of three successive problems of teaching. The first is to begin the development of reading habits through the use of reading lessons based on experience; the second is to introduce books and to train pupils to read from them; and the third is to train pupils to secure an increasing amount of information and pleasure through reading.

Aims of early lessons based on experience. The general aim of early lessons based on familiar experience and activities is to introduce pupils to reading as a thought-getting process and to develop a sight vocabulary of frequently recurring words. The justification for the use of such lessons lies in the fact that the more interesting and familiar the experience, "the more interpretation, that is, the more personal attitude there will be to carry over and attach to the printed word."¹³ The specific aims include the following items: (a) to stimulate keen interest in reading activities and a desire to read independently; (b) to associate meanings with symbols, to cultivate a thoughtful reading attitude, and to stimulate the habit of thinking about what is read, and (c) to acquire from meaningful reading activities and from phrase and word practice a sight vocabulary sufficiently rich to enable pupils to read under direction the simplest stories of the first book or reader to be used. As a rule, this includes

¹² Guy T. Buswell, *Fundamental Reading Habits: A Study of Their Development*, Ch. II. Supplementary Educational Monographs, No. 21. Chicago: Department of Education, University of Chicago, 1922.

¹³ Charles H. Judd, *Reading: Its Nature and Development*, p. 182. Supplementary Educational Monographs, Vol. II, No. 4. Chicago: Department of Education, University of Chicago, 1918.

a sight vocabulary of fifty or more frequently used words and the habit of recognizing familiar words in thought units.

Essential activities. In order to secure rapid progress in early reading lessons, at least five types of activities are essential:

1. Interesting experiences which serve as a basis for reading lessons. These include group activities, excursions, plays, games, stories, rhymes, and discussions of objects and pictures. School systems follow various plans¹⁴ in providing these experiences. For example, some schools¹⁵ have organized sets of practice exercises based on cutting, pasting, and coloring activities which provide motives for reading and for learning to read.

2. Oral and silent reading lessons based on interesting experiences. The subject matter for these lessons is organized by the pupils and teacher during the reading or language period, written on the board or printed on charts by the teacher, and later mimeographed, hectographed or printed for use in reading classes.

3. The story hour and dramatization period. The activities of these periods prove very effective in stimulating a desire to read, in preparing pupils for the thoughtful interpretation of what they read, in enriching their experiences, in providing good models of expression, and in improving the language habits of children.

4. Frequent opportunities to read in connection with numerous classroom activities. The equipment of the room, attractive picture books on the reading table, announcements on the bulletin board, and the use of written and printed material in content studies, stimulate a desire to read and provide continuous opportunity for thoughtful reading. The fact should be noted that much of this early incidental reading is done silently, followed frequently by oral reading and more often by discussion.

5. Interesting games and drill exercises to aid in the recognition of words and groups of words which appear most frequently in incidental reading activities and in the early selections of the books which are read first. For detailed suggestions see Chapter IV.

On account of the brevity of this report very few suggestions con-

¹⁴ *New Materials of Instruction*, Ch. I. Nineteenth Yearbook of this Society, Part I. Bloomington, Illinois: Public School Publishing Co., 1920.

¹⁵ *Report of the Society's Committee on Silent Reading*, Sec. 2. Twentieth Yearbook of this Society, Part II. Bloomington, Illinois: Public School Publishing Co., 1921.

cerning methods of teaching can be included at this point. Attention is called to the fact, however, that the technique of teaching reading lessons based on familiar experiences is admirably discussed by Parker's *Types of Elementary Teaching and Learning*.¹⁶

Duration of early lessons based on experiences. Pupils who are prepared to learn to read when they enter school usually spend from four to six weeks on reading lessons based on experiences before books are introduced. This is on the assumption that eighty or more minutes are devoted daily to reading or to activities which prepare for reading lessons. Instruction of this type should be continued until pupils acquire keen interest in reading and a sight vocabulary sufficient to enable them to recognize without help a large majority of the words in the first lessons in a primer or reader. The pupils should not be forced at this stage of development, but should be allowed to advance somewhat deliberately.

Training pupils to read from books. As soon as pupils have made sufficient progress to justify the use of printed material, specific training should be provided in the technique of using books and in reading from them. This includes a number of steps of which the following are examples: creating interest in reading from books; training pupils to open books and turn pages carefully; examining the first book to be used in order to become familiar with its title, contents, pictures, familiar stories, and page numbers; training in the use of markers; studying pictures to learn what a story is about; learning to read short units of the page; and acquiring habits of "continuous, coherent, rapid, meaningful reading."¹⁷ While pupils are learning to read from books, reading lessons based on their experiences and activities should be continued, as well as the work of the story hour, the dramatization period, and incidental reading in connection with various classroom activities. Furthermore, the reading table should be provided with a larger number of attractive books in order to stimulate interest in independent reading.

Broader reading program after books are introduced. As soon as

¹⁶ S. Chester Parker, *Types of Elementary Teaching and Learning*, Ch. V. Boston: Ginn & Co., 1923.

¹⁷ For methods of accomplishing these ends, see S. Chester Parker, *Types of Elementary Teaching and Learning*. Pp. 103-124. Boston: Ginn & Co., 1923.

pupils have learned to read from books, the possibilities of a reading program become wider and more varied. For the purpose of this report they may be classified into three groups:

1. Regular practice in reading each day for the purpose of developing attitudes, habits, and skills that are essential in all reading activities. This includes measuring the progress of pupils, determining individual needs, and providing remedial instruction.

2. Reading for information and direction in connection with all classroom problems and activities.

3. Independent and directed reading for pleasure and enjoyment in order to stimulate keen interest in, and to promote the development of, permanent habits of reading.

Recommendations relating to each of these groups of reading activities will now be presented.

1. *Daily reading lessons.* It is recommended, that two periods each day be used for group and individual instruction in promoting the development of essential attitudes, habits, and skills in reading. It is not sufficient to provide pupils at this stage of development with opportunities to read. Specific attention must be given to the cultivation of appropriate reading attitudes and habits, to the elimination of undesirable ones, and to provision for the needs of pupils who encounter unusual difficulties in learning to read. It is evident that pupils who advance slowly will need much attention during regular reading periods. Those who advance rapidly may be excused from many of these lessons and may engage to advantage in independent reading activities. A list of desirable types of reading lessons follows:

- (a) Silent-reading and oral-reading lessons based on interesting experiences and activities of the pupils and on stories and informational selections in readers and other books to insure rapid growth in habits of intelligent interpretation.

- (b) Directed silent reading for information or pleasure to establish habits of continuous, intelligent reading and study.

- (c) Directed oral reading following silent preparation to develop ability to recognize increasingly large units of thought at each fixation and to read effectively to others.

- (d) Dramatization exercises to aid in mastering the thought of a selection, as a means of realizing experiences more fully, and as an

opportunity of giving to others one's own interpretation of the meaning of a selection.

(e) Drill and exercises to establish habits of accuracy and independence in word recognition, rapid recognition, and a wide span of recognition. The problems of word recognition and phonetic analysis are discussed in detail in Chapter IV.

(f) Supervised seat activities to train pupils in habits of independent study and in the thoughtful interpretation of what they read.

(g) Self-directed seat activities, with appropriate check tests, to provide opportunity for pupils to read independently and to secure training in habits of careful, thorough work.

(h) Frequent tests of the progress of pupils and diagnostic and remedial steps, as described in Chapter X of this report.

2. *Reading for direction and information in classroom activities.* Reading should early form a natural and an essential part of most classroom activities. This type of reading takes the form of directions for work, announcements, records of classroom activities, mimeographed material, and printed selections which contribute to an understanding of problems in which the pupils are interested. The fact should be emphasized that when reading occurs in connection with a class activity, the reading process itself is of secondary importance. If pupils encounter difficulties, they should be given at once whatever help is needed so that the activity may go forward. A record should be made of the types of difficulties which are revealed and special help provided later during regular reading periods. A more detailed statement of the opportunities for reading in numerous activities and some of the problems that are involved appear in Chapter V.

3. *Independent and directed reading for pleasure.* As soon as pupils have learned to read with ease, a period should be used each day for promoting habits of independent reading for pleasure. At first, teachers will find it necessary to direct pupils during these periods. Interest in reading independently must be cultivated in many cases. The poorer readers will need help in securing meanings. All will profit by the teachers' comments, suggestions, and display of interest in particular selections. Either silent or oral reading may be used as best meets the needs of the occasion.

As soon as pupils give evidence of genuine interest in independent reading and ability to read thoughtfully with little or no assistance, they may be given the freedom of the reading or library table while the teacher aids those who have advanced less rapidly. This table should be provided with as many interesting books for young children as the school affords. Suggestions concerning the direction and supervision of the library reading activities of pupils are given in Chapter VI. Pupils who proceed satisfactorily at the reading table should be encouraged to take books home and to bring to school interesting books which they find in their home libraries. In other words, as soon as children show keen interest in reading and are able to read simple stories independently, definite steps should be taken to cultivate permanent interests in reading and the habit of reading independently.

Variations in program to meet the needs of special groups or of individuals. The program which has been outlined is planned to meet the needs of pupils who are prepared for reading at the beginning of the first grade and who advance at a normal rate of progress. Changes in the program should be made to meet the needs of special groups or of individual pupils within a group. Examples follow:

Pupils who learn rapidly. Fewer lessons for the mastery of fundamental habits; a larger number of self-directed reading activities; earlier introduction to and a larger amount of independent reading for pleasure and information; more provision for reading in connection with various studies and classroom activities.

Pupils who learn slowly. More stimulation of interest by the teacher; a larger number of reading lessons to cultivate appropriate reading attitudes and habits; more attention to the establishment of right habits; detailed supervision of supplementary reading activities; a larger number of very simple selections for class use; more careful supervision of independent reading; more elaborate studies of individual difficulties.

Pupils who were unable to speak English when they entered school. A larger number of reading lessons based on familiar experiences; more conversation and discussion to accompany each lesson; very gradual introduction of new words; more emphasis on good pronunciation and enunciation; a larger amount of reading of very

simple selections; more reading and story-telling by the teacher; more careful supervision of independent reading.

The fact should be remembered that pupils advance at different rates of progress. Provision must therefore be made in schools having two or more first-grade sections for the transfer of pupils from one to another whenever such changes are desirable.

Amount of time for reading. In a recent analysis¹⁸ of the model programs for rural schools in 26 state courses of study, it was found that 56 minutes were given to reading each day in the first grade. In a study¹⁹ of thirty-one first-class schools of North Dakota, it was found that the median number of minutes per day in the first grade was sixty-five. In a study²⁰ of the amount of time given to reading in forty-nine large cities, it was found that the average was 84 minutes per day. In some cities as much as 120 minutes were given each day to supervised and self-directed reading activities.

Current practice with regard to time allotment developed when reading activities were limited almost exclusively to the reading period. According to the program which has been recommended, reading is intimately related to practically every classroom activity. It follows that less rather than more time should be used for daily reading practice. Furthermore, ample time must be provided for the enriched program of meaningful activities which has been recommended for the first grade. Owing to differences in conditions, it is impossible to suggest a time allotment for reading which will be equally appropriate for all schools. In general, 80 minutes per day is a reasonable time allotment in larger schools. Larger or smaller amounts of time may prove desirable in the case of pupils who learn slowly or rapidly. Experience has taught that this allotment may be greatly reduced through the wise use of incidental reading activities. It is unwise, therefore, to hold every teacher in a school system to close adherence to a given schedule.

¹⁸ Charles M. Reinoehl, *Analytic Survey of State Courses of Study for Rural Elementary Schools*. P. 24. Bureau of Education Bulletin, No. 42, 1922. Washington: Bureau of Education.

¹⁹ H. H. Kirk, "Time distribution by subject and grade," *Elementary School Journal*, 23 (March, 1923), p. 537.

²⁰ Fred C. Ayer, "Average time allotment in 49 large cities compared with Seattle." *Second Yearbook, Department of Superintendence*. Pp. 139-143.

Number of books to be read. It has been definitely ascertained²¹ that the pupils who read widely make more rapid progress than pupils who read a limited amount of material. Some classes read only two or three books under supervision, others from twenty to thirty. It is suggested that provision be made for reading at least twelve books under supervision during the first year. Some of these books should be read in group activities; others should be read individually. The fact should be remembered, however, that the pupils should interpret intelligently as well as read widely.

It is impossible to state at this time the most appropriate number of books to be read independently by children during the first grade. In one city which reported, the average number of books read by the pupils of a first-grade class was 30; the maximum, 38, and the minimum, 20. It is recommended that provision be made for the independent reading by each pupil of at least ten interesting books at home or at the library table. In the judgment of the committee a larger number may be read to advantage by pupils who make normal or rapid progress in learning to read.

Relative importance of oral and silent reading. The exact amount of emphasis which should be given in the initial period to oral reading and to silent reading is still an open question. The fact that silent reading is the type used most frequently, both in school and in adult life, justifies the recommendation that pupils should form habits of thoughtful silent reading from the beginning. The fact that oral reading is intimately related to spoken language makes it an economical and desirable means of promoting rapid growth in reading. On the other hand, the fact that pupils who learn exclusively by oral methods frequently become word readers indicates that there is danger in over-emphasizing oral-reading habits.

These facts justify the conclusion that pupils should be taught from the beginning to read both orally and silently. As a rule, approximately equal amounts of class time should be devoted to each type of reading in the first grade. This will result in much more silent than oral reading when all reading activities are considered. However, teachers who note the progress of pupils will find frequent justification for departing for a period of time from this general recommendation.

²¹ William S. Gray, *Reading Survey of the St. Louis Public Schools. Yonkers-on-Hudson, New York: World Book Co., 1918.*

Desirable levels of achievement. The following characteristics distinguish the pupil who has satisfactorily completed the requirements of the initial period:

1. Becomes completely absorbed in the content of interesting selections when reading independently.
2. Reads silently with few or no lip movements.
3. Asks questions about and discusses intelligently the content of what is read.
4. Reads aloud clearly, naturally, and in thought units rather than by individual words.
5. Handles books with care, opens and turns pages properly, knows the order of paging, and is able to find readily what he is looking for.

The accomplishments and progress of first-grade pupils may be determined from time to time through the use of the following standardized reading tests:

<i>Accomplishment</i>	<i>Test</i>
1. Recognizing the meanings of words seen	Detroit Group Test in Word Recognition
2. Interpreting simple sentences and paragraphs	Haggerty Reading Examination, Sigma I
3. Understanding and reproducing what is read	Starch Silent Reading Test
4. Rate of silent reading.	Starch Silent Reading Test
5. General accomplishment in speed and accuracy of oral reading	Standardized Oral Reading Paragraphs
6. Rate and accuracy of oral reading	Gray Oral Reading Check Tests

The standard scores which accompany these tests are based on the results of reading instruction as it has been given in the past. Evidence has been secured which shows clearly that higher standards of achievement may reasonably be expected of first-grade pupils. For example, it was found in a recent unpublished study in which three tests were used that pupils who revealed at the end of the first grade the five qualities described above made on the average distinctly superior scores. The standard scores, as well as the average scores, of these pupils which are suggested as desirable standards, are presented here for purposes of comparison.

Haggerty Reading Examination, Sigma I, Test I
 Standard Score, 4
 Desirable Standard, 5

Starch Silent Reading Test	
Standard Score, Comprehension	15
Rate per minute	90
Desirable Standard, Comprehension	18
Rate per minute	100
Standardized Oral Reading Paragraphs	
Standard Score, 31	
Desirable Standard, 40	

The scores which have been described represent desirable levels of achievement at the end of the initial period. They may be attained by a large proportion of first-grade pupils at or very near the end of the year. They may be easily surpassed by many pupils who learn to read easily. They may not be attained by many pupils until well into the second grade. As rapidly as pupils reach the suggested standards, provision should be made for the broader program of reading activities recommended in the next section for second- and third-grade pupils.

E. PERIOD OF RAPID GROWTH IN FUNDAMENTAL ATTITUDES, HABITS, AND SKILLS

Second and Third Grades

Distinguishing characteristics and duration of the period. Each period in an effective reading program is characterized by the enrichment of experience and the cultivation of interest in reading activities. In addition, the third period has been distinguished as one of rapid growth in the fundamental attitudes, habits, and skills on which intelligent interpretation, speed of silent reading, and fluent, accurate oral reading depend. By the end of this period pupils should be able to read independently and intelligently, either orally or silently, simple content material such as is usually assigned in the fourth grade.

Studies of the progress of pupils show that a large proportion of them fulfil all requirements of this period during the second and third grades. Therefore, the problems of the third period will be referred to in the discussions that follow as the normal problems for these grades. In doing so, four facts are clearly recognized, namely, that pupils who enter the second grade differ widely in achievement and require instruction at different levels of advancement, that they move forward through the second and third grades

at different rates of progress, that many pupils who learn rapidly are prepared for more advanced work much earlier than the end of the third grade, and that pupils who learn slowly require in the fourth and even in the fifth grades instruction similar to that recommended for this period.

Specific aims. The specific aims of instruction in reading for pupils who make normal progress during the second and third grades follow:

1. To provide a rich variety of reading experience based on the world's greatest stories for children and on informational material relating to numerous topics which are studied in content subjects or which challenge the pupils' interest in other activities.

2. To stimulate keen interest in reading wholesome books and selections for pleasure and information and to establish the habit of reading independently.

3. To secure rapid growth in habits of intelligent interpretation. This includes the following items: (a) Rapid progress in the interpretation of the important ideas of simple passages, such as those in the Courtis Silent Reading Test, No. 2. By the end of the third grade, pupils should be able to interpret such passages with a high degree of accuracy. (b) Steady progress in reading different types of material for various purposes, such as finding answers to questions, following directions, and remembering what is read, and in interpreting increasingly difficult passages, such as those in the Monroe Silent Reading Test.

4. To increase the rate and accuracy of oral reading and of silent reading. This includes rapid progress in habits of accurate recognition, rapid recognition, a wide span of recognition, a wide eye-voice span, and the rhythmical progress of perception along the lines. In fact, progress in the development of these habits is more rapid during the second and third grades than during any other period.

5. To provide for the development of desirable habits of interpretative oral reading and of appropriate standards in specific oral-reading situations.

6. To continue training in the skilful use of books, to familiarize pupils with the privileges and opportunities of libraries, and to teach them to withdraw and return books.

Provision for essential types of reading activities. In order to accomplish these aims in the second and third grades, provision

must be made for at least three general types of activities, namely: daily reading lessons, wide reading in connection with numerous classroom problems and activities, and much independent reading, both in and out of school. Important problems in connection with each type will now be considered.

Purpose of daily reading lessons. An essential purpose of all reading activities is to enrich experience and to stimulate and broaden the reader's interests. In addition, daily practice in reading has three purposes which are peculiarly appropriate in the second and third grades, namely: (a) to develop power as a reader, that is, to secure rapid growth in ability to deal successfully with increasingly difficult reading situations, (b) to make desirable habits permanent, and (c) to eliminate or correct undesirable habits.

Time allotment. In an analysis of the daily programs in twenty-six state courses of study,²² it was found that the average number of minutes per day recommended for reading in rural elementary schools was 72 for the second grade and 63 for the third grade. In a study²³ of the time schedules of thirty-one first-class schools of North Dakota, it was found that the median number of minutes per day for reading was 50 for both the second grade and the third. The daily allotment varied from 25 to 90 minutes for the second grade and from 15 to 80 for the third. In a study²⁴ of the amount of time given to reading in forty-nine cities, it was found that the average was 81 minutes per day for the second grade and 66 for the third.

Current practice would justify a recommendation of about 70 minutes a day for reading in the second grade and 60 in the third grade, varying somewhat with the size of the school and the type of class organization. The fact should again be remembered, however, that current practice developed when reading activities were limited almost exclusively to the reading period. Since reading is

²² Charles M. Reinoehl, *Analytic Survey of State Courses of Study for Rural Elementary Schools*, P. 24. Bureau of Education Bulletin, No. 42, 1922. Washington: Bureau of Education.

²³ H. H. Kirk, "Time distribution by subject and grade," *Elementary School Journal*, 23 (March, 1923), p. 537.

²⁴ Fred C. Ayer, "Average time allotments in 49 large cities compared with Seattle," *The Elementary School Curriculum*. Second Yearbook of the Department of Superintendence. Washington: Department of Superintendence. National Education Association, 1924.

intimately related to practically all school activities in the program which is here recommended, it follows again that less rather than more time will be needed for formal instruction in reading. On the other hand, far more time should be given to activities that enrich experience and provide incidental reading practice than is used for such purposes in most classrooms to-day.

Developing power as a reader. The work of one recitation period daily during the greater part of the second and third grades should take the form of carefully directed training for the purpose of developing power as a reader. A list of types of activities that are valuable in this connection follows:

1. Silent reading to develop habits of intelligent interpretation. Such lessons require reading for specific purposes (such as finding answers to questions), selecting important points and supporting details, dividing a selection into its major thought units, securing information for oral reproduction or for use in class discussions, and following directions. This training should secure rapid growth in both accuracy and depth of interpretation and should lay the foundation for good study habits. Selections from graded readers or from books containing informational material may be used to advantage in accomplishing these purposes.

2. Group oral reading and class discussions to stimulate additional growth in habits of thoughtful reading. The oral reading may be preceded to advantage by thoughtful silent reading for the purpose of answering assigned questions or to solve one or more problems. It should be accompanied by discussions which stimulate good thinking and provide opportunity to compare, weigh values, and draw conclusions. Selections from graded and supplementary readers, as well as from other interesting books, may be used in this connection. The fact should be remembered, however, that growth in intelligent interpretation can probably be secured most effectively through silent-reading activities.

3. Practice to improve the form and quality of oral reading. Such lessons should provide strong motives for good reading and real audience situations. Teachers should discuss appropriate standards in reading specific selections; they should also read aloud frequently in order that pupils may hear good reading and acquire desirable habits through imitation. Individual assignments as well as group exercises should be provided. Supplementary readers, interesting

stories and dramatic readers are valuable sources of good practice material.

4. Drill exercises, when needed, to increase accuracy and independence in word recognition. This includes drill on unphonetic words which cause difficulty, as well as systematic training in the phonetic analysis of short words and in the syllabication of words of two or more syllables when such help is needed. Specific suggestions concerning appropriate types of training are given in Chapter IV.

5. Special training is needed frequently to increase the rate and span of recognition. Flash-card exercises based on words and phrases which appear frequently in reading lessons are excellent for this purpose. In addition, instruction is needed in the use of books and in the technique of withdrawing them from the library and returning them to it.

The types of lessons which have been outlined are usually provided during the morning period. The amount of time which should be given to each type depends on the needs and progress of the pupils taught. Some may be excused to advantage from many of the lessons that are assigned; others will need special training in addition to that provided for the group as a whole. It follows that teachers should study the accomplishments of their pupils constantly and provide instruction each day for the class as a whole or for individual pupils which will secure progress in one or more specific phases of reading.

Making desirable habits permanent. Numerous opportunities to read relatively simple selections should be provided, preferably during afternoon periods, for the purpose of promoting the permanent establishment of reading attitudes, habits, and skills which have been partly developed, but not perfected. The justification for using simple selections lies in the fact that pupils are able to read with reasonable ease and rapidity. When relieved of the need of determining numerous meanings and pronunciations, they become interested in the content, they proceed rapidly in silent reading, and they group their words together effectively in oral reading. Current reading programs may be justly criticized because they fail to provide pupils with sufficient opportunity to read relatively simple selections until essential attitudes, habits, and skills are thoroughly established. If the reading materials used contain valuable content, there

is no danger of over-learning, such as occurs in practice on some habits and skills. A list of reading activities of recognized value in making desirable habits permanent follows:

1. Supervised silent reading for information, the pupils reading to accomplish a specific purpose, such as to find out how a story ends or how cotton is grown and marketed. A series of valuable tests of comprehension for use in such reading activities is suggested in Chapter IX.

2. Directed silent reading for pleasure. Pupils should be given frequent opportunity to read for fun. As the pupils read, the teacher should observe their reading habits and make constructive suggestions in individual cases. The selections used should be highly entertaining and calculated to develop permanent interest in independent reading.

3. Oral reading at sight, with attention directed to the content. If pupils encounter difficulties, the teacher and the class give such help as may be needed and the reading continues. A note is made by the teacher of errors and specific training is provided later in a drill period. As soon as pupils are able to read fluently and accurately at sight, they should be excused from practice of this type.

4. Dramatization, as a motive for wide reading with a purpose and as an opportunity for the cultivation of good habits of oral expression. Pupils should be given wide freedom in selecting appropriate parts to dramatize, in selecting characters and arranging scenes, and in giving their own interpretation of a story.

5. Motivated oral reading of relatively simple selections in audience situations. To a large extent pupils should read selections of their own choice or simple passages, assigned by the teacher, which are appropriate for given occasions, such as a Thanksgiving program.

In addition, there should be wide reading in other classes of simple content material to secure information for use in class discussions and much independent reading for pleasure, both in and out of school. These types of reading are discussed more fully in later paragraphs. If the materials read are sufficiently interesting and relatively simple, such reading activities will contribute to rapid progress in the permanent establishment of desirable reading attitudes and habits.

Eliminating or correcting undesirable habits. Abundant provision should be made in the second and third grades to correct or eliminate undesirable habits. Such steps are necessary in order that pupils may early form desirable habits and in order that undesirable habits may not be permanently established. Therefore, a part of the time set aside daily for reading should be used for corrective and remedial work. A list of appropriate opportunities for eliminating or correcting undesirable habits follows:

1. In many lessons planned to develop power in intelligent silent reading and in fluent, accurate oral reading, errors which interfere with thought-getting or giving may be corrected when they occur and constructive suggestions offered. Care should be observed, however, not to let corrections inhibit the interest and co-operation of the reader.

2. The errors and difficulties which occur in reading relatively simple material and in the reading which is done in connection with other classroom studies and activities should be noted. Special drill or reading practice should be planned during a morning reading period which will aid individual pupils or small groups of pupils in overcoming their difficulties.

3. Tests should be given frequently in either the morning or afternoon reading period to all members of a class to determine their accomplishments and needs in rapid recognition, in accurate recognition, in span of recognition, and in the rapid grasp of meanings. Numerous examples of appropriate tests are given in Chapter IX. Drill exercises should be provided for those who need training in specific reading habits. As soon as the fact has been ascertained that given pupils have formed desirable habits, they may be excused from drill exercises. The training should be continued in the case of other pupils until satisfactory progress has been made.

4. Time should be reserved each week for diagnostic and remedial instruction. There are pupils in each classroom who encounter unusual difficulties in reading. In many cases the cause of such difficulties cannot be determined and appropriate instruction provided without detailed studies of their reading habits. While the teacher is giving attention to pupils who need special help, the remainder of the pupils may with advantage read independently for pleasure or information. Diagnostic and remedial steps appropriate for use in second- and third-grade classes are discussed in Chapter X.

Importance of planning to secure specific results. The discussion of daily reading lessons has shown that various types of reading activities are essential in enriching the experiences of pupils, in stimulating keen interest in reading, in developing power as a reader, in making desirable habits permanent, and in correcting or eliminating undesirable habits. It remains to emphasize the fact that the work of each reading period should be planned to secure progress in one or more specific phases of reading. It has been customary in the past for teachers "to hear pupils read" day after day with little or no variation in the purpose or methods of teaching. Supervisors justly condemn such practices as ineffective and even harmful. In order to train pupils to be intelligent, thoughtful, independent readers, lessons must be planned to secure definite progress each day in one or more important phases of reading.

Wide reading for information and pleasure in most classroom activities. The fact was emphasized earlier that reading should form a natural part of most classroom activities. The habit of reading widely in connection with the various problems which are studied in the second and third grades is very desirable for three reasons: it is an important means of extending and enriching the experiences of pupils; it supplements to distinct advantage the somewhat limited first-hand experience and the oral reports which the teacher and pupils can provide, and it establishes habits of independent recreational reading and study which are essential in all grades above the third. One reason why so many pupils fail in content subjects in the fourth grade is because they have not been trained to interpret simple factual material effectively.

The reading opportunities which should be provided include reports based on the experiences and activities of the pupils, directions for work, assignment sheets, mimeographed copies of materials which cannot be supplied to the pupils in printed form, textbooks, supplementary readers relating to specific fields of interest, such as the life of children of foreign lands, and general library books. The reading which is done should represent both the work and the play types. The fact should be emphasized that the amount of reading at the play level should be greatly increased. This type of reading contributes a wealth of new experience and develops permanent interests in reading about a wide variety of topics. The specific problems of teaching pupils to read in connection with classroom activities are discussed in detail in Chapter V.

Independent reading for pleasure and information. The third type of reading activity which should be provided includes independent reading in school and at home. Such reading is indispensable in increasing the experiences of boys and girls, in stimulating keen interest in reading, and in training them in the wholesome use of leisure time. Provision for a large amount of independent reading in the second and third grades is justified inasmuch as investigations show that most pupils are prepared for it by the beginning of the second grade or shortly after that time and that the pupils who read widely advance most rapidly.

Each classroom should have its reading table or shelves to which the pupils may go during free hours or after other work has been completed. Provision should also be made for pupils to secure books to read at home. Public libraries in many cities send to the school books from which pupils choose those they wish to read. In other cities school libraries provide appropriate books. On the return of a book the pupil may tell to the teacher or to the class the incidents he liked best, or he may read sections which proved most interesting. In some schools the pupils frequently dictate or prepare brief written reports of the stories read, emphasizing points which interested them most. These are filed and referred to frequently in helping other pupils select books to read. For suggestions concerning such reports, see Chapter VI.

Three types of activities should be provided, preferably during afternoon periods, in supervising and directing the independent reading of pupils.

1. Silent-reading periods early in the second grade to determine if pupils are able to read to themselves effectively. As the pupils read silently the teacher should observe their reading habits. One evidence of preparation for independent reading is the fact that pupils become completely absorbed in the content of what they read. Teachers should make records of the needs of pupils who cannot read simple selections without help and should provide appropriate types of training during regular reading periods.

2. Reading of parts of stories by the teacher or the pupils to stimulate general interest in reading the remainder of selections or books independently.

3. Reports and discussions by the pupils of their outside reading; also individual conferences initiated by the teacher to aid pupils who

read but little to find books and selections which they would like to read.

Desirable levels of achievement. Pupils who complete satisfactorily the requirements of the third period of reading instruction reveal the following characteristics:

1. They have thoroughly established the habit of reading independently.

2. They interpret effectively the reading materials assigned in connection with other school activities and are able to discuss or to make use of the content of what they read.

3. They inquire about or independently seek for reading materials which relate to the problems or activities in which they are interested.

4. They read more rapidly silently than orally.

5. They are able to read orally at sight with ease and effective expression, provided the materials assigned do not contain word difficulties or difficulties of meaning.

The achievement and progress of pupils may be determined objectively at frequent intervals through the use of the following standardized reading tests:

Burgess Scale for Measuring Silent Reading Ability

Courtis Silent Reading Test, No. 2

Gray Oral Reading Check Tests

Haggerty Reading Examination, Sigma I

Monroe Silent Reading Test

Standardized Oral Reading Paragraphs

Stanford Reading Examination

Starch Silent Reading Test

The fact should be remembered that the standard scores which accompany these tests are based on the results of reading instruction as it has been given in the past. Evidence has been secured which shows clearly that schools may easily surpass current standards of accomplishment by providing effective instruction in harmony with the reading program which has been recommended. For example, a study of the scores of pupils who had fulfilled all requirements of this period by the end of the third grade justifies the following general description of desirable standards: a score of 50 or better in the Standardized Oral Reading Paragraphs, a score of 62 or better in the Burgess Scale for Measuring Silent Reading

Ability, a rate score of 150 or more words per minute in the Courtis Silent Reading Test, and a comprehension score of approximately 100 in the same test. A more detailed statement of desirable standards follows. Only those tests are included for which the necessary data have been secured. The standard scores, as well as the proposed desirable standards, are included for purposes of comparison. Desirable standards should be determined for the other tests listed above.

1. In the interpretation of what is read:

Courtis Silent Reading Test, No. 2

Standard Scores: Grade II, 59; Grade III, 78

Desirable Standards: Grade II, 70; Grade III, 95

Burgess Scale for Measuring Silent Reading Ability

Standard Scores: Grade III, 50

Desirable Standards: Grade III, 56

2. In speed of silent reading:

Courtis Silent Reading Test, No. 2

Standard Scores: Grade II, 84 words per minute

Grade III, 113 words per minute

Desirable Standards: Grade II, 105 words per minute

Grade III, 135 words per minute

Starch Silent Reading Test

Standard Scores: Grade II, 1.8 per second

Grade III, 2.1 per second

Desirable Standards: Grade II, 120 words per minute

Grade III, 150 words per minute

3. In speed and accuracy of oral reading:

Standardized Oral Reading Paragraphs

Standard Scores: Grade II, 43; Grade III, 46

Desirable Standards: Grade II, 45; Grade III, 50

F. WIDE READING TO EXTEND AND ENRICH EXPERIENCE AND TO
CULTIVATE IMPORTANT READING ATTITUDES, HABITS, AND TASTES

Fourth, Fifth, and Sixth Grades

Essential characteristics and duration of the period. Appropriate reading instruction during the fourth, fifth, and sixth grades is distinguished by provision for wide reading to extend experience, to stimulate the thinking powers of the reader, and to further develop important reading attitudes, habits, and tastes. Each content subject, as well as the reading and literature period, contributes directly to the development of effective habits of reading. Opportunities are unlimited during this period for the enrichment of experience and for the cultivation of wholesome interests in reading. The normal work of the period continues until pupils have learned to read effectively for a wide variety of purposes and until

habits of rapid silent reading approach maturity. As instruction in reading improves, most pupils will reach this stage of development by the end of the sixth grade, or earlier.

Specific aims. The aims of reading instruction which are appropriate for the fourth, fifth, and sixth grades follow:

1. To provide rich and varied experiences in practically every field of thought and activity for which pupils are prepared, such as history, biography, geography, travel, science, art, recreation, and literature. Abundant opportunity should be provided for reading relatively simple material in the classroom, in the library, and at home. Each content subject, as well as the reading period, should contribute to rapid growth in experience. It is far more important in these grades for pupils to acquire rich experience through reading relatively simple material than it is to develop ability to read difficult selections accurately.

2. To continue the development of interest in entertaining, instructive, and worth-while reading, and to give elementary training in the sources and values of different types of reading material. Special effort should be made to develop strong, wholesome motives for reading among pupils who do not read widely.

3. To promote rapid growth in habits of intelligent interpretation. This includes (a) to refine and use widely habits of interpreting simple selections accurately and of thinking clearly about the content of what is read, (b) to make progress in dealing successfully with increasingly difficult problems of interpretation, such as are illustrated in the Monroe Silent Reading Tests and the Thorndike-McCall Reading Tests, and (c) to develop habits of reading effectively for a wide variety of useful purposes, such as:

Selecting the aim or purpose of a passage

Finding important points and supporting details

Finding answers to questions

Collecting information which will aid in the solution of a problem

Grasping the organization of what is read

Making judgments on the basis of facts presented

Determining the validity of statements

Making keen, critical interpretations of passages

Following directions

Remembering what is read to reproduce it or to make use of it in some other way

Appreciating the thoughts, sentiments and ideals expressed

4. To improve and refine the habits of recognition in both oral and silent reading. This includes the development of greater speed, accuracy, and independence in word recognition, a decrease in the number and duration of fixations, and the elimination of most regressive movements. Special emphasis on speed of silent reading is appropriate during this period.

5. To improve the quality of oral interpretation and to develop standards for use in oral-reading situations. It is important that strong motives for reading and real audience situations be provided.

6. To provide systematic instruction in the economical and skilful use of books, in the privileges and opportunities which libraries afford, and in the intelligent use of library privileges. Special training is necessary during this period in the use of dictionaries, encyclopedias, and other sources of information which well-equipped schools provide.

Essential types of reading activities. In order to accomplish the aims of reading instruction in the fourth, fifth, and sixth grades, provision must be made for at least the following types of reading activities:

1. Supervised silent reading during a daily library period.
2. Systematic instruction in reading and study habits; testing; diagnostic and remedial work.
3. Specific instruction in each content subject concerning habits of effective reading and study peculiar to that subject.
4. Group reading and discussion of simple, interesting literary selections for enjoyment, growth in appreciation, and power of interpretation.
5. Opportunity for motivated oral reading and for the development of standards appropriate for use in oral reading situations.
6. Ample provision for independent reading during free periods and at home.

This outline includes a wide variety of activities for which provision should be made. It is recommended that two periods be provided each day. One period should be used for the following activities: (a) systematic instruction in reading and study habits; (b) testing, diagnosis, and remedial work; (c) training in the use of books, libraries, and sources of information; (d) group reading and discussion of simple literary selections, and (e) instruction to improve oral interpretation and to develop appropriate standards.

The second period may be used (a) for supervised library reading; (b) for stimulating and directing the reading interests of pupils; (c) for checking on outside reading, and (d) for diagnostic and remedial work. If time cannot be provided daily for both a library and a reading period, the program adopted should give to each group of activities its due share of time.

In any discussion of a desirable reading program for the fourth, fifth, and sixth grades, the fact cannot be emphasized too vigorously that the essential aims of instruction are attained primarily through wide reading. The plan has been adopted, therefore, of discussing first the problems of teaching which relate to library reading and to reading which accompanies the study of content subjects. The more detailed problems of the regular reading period will be considered in later paragraphs.

The library period. Many schools provide a period each day during which pupils may go to a library room in the building or to a reading table in the classroom to read for pleasure or information. As a rule, they are allowed to select and read whatever interests them. A record is kept of the books read by each pupil. The teacher, or the librarian who is in charge, has three responsibilities, namely: (a) to aid pupils in selecting books which will be of interest to them; (b) to observe their reading habits, correct minor errors, such as lip-movements, give help to those who request or need it, and make a record of errors and difficulties which in her judgment should receive additional attention during the regular reading period; and (c) to give remedial instruction frequently to pupils who are in need of such help.

The activities of the library period are extremely valuable for several reasons. They aid in the permanent establishment of habits of independent reading; they acquaint pupils with various types of interesting wholesome reading materials, thus broadening their range of interests in reading; they provide for the rapid enrichment of experience; they aid in the improvement and refinement of habits of silent reading, and they provide opportunity in many schools for individual help and remedial instruction. Supervised library reading is essential to an effective program of reading activities in the fourth, fifth, and sixth grades. Suggestions concerning appropriate books for a library appear in Chapter VII.

② *Reading in content subjects.* The fact has been emphasized that

each content subject should provide a wealth of relatively simple reading material. The books for a given class should vary somewhat in difficulty in order to meet the needs of pupils at different levels of advancement. It is particularly desirable to supply poor readers with relatively easy reading material which they can read and understand readily. Two types of reading material with respect to content should be provided. The first includes information which is essential to the solution of class problems and which should be read carefully for specific purposes. The second includes very interesting supplementary materials which can be read at the play level during study periods, in the library, or at home, in order to broaden and enrich the experiences gained through intensive study.

The problems of teaching pupils to read and study effectively materials assigned in content subjects may be provided for in two ways. First, those attitudes, habits, and skills which are common to a large number of reading situations, such as following directions, selecting and outlining major points and supporting details of a passage, or using a dictionary, should be made the basis for specific training during regular reading periods. Teachers should anticipate the general reading needs of pupils in content subjects and should provide training in essential habits somewhat in advance of their actual use in study activities. In addition, training should be provided in each content subject in those reading habits which are peculiar to it, such as reading to find the essential conditions of a problem in arithmetic. Detailed suggestions concerning methods of teaching pupils to read effectively in content subjects are given in Chapter V.

The reading of literature. The group reading of simple, interesting literary selections has several distinct values. It provides opportunity for pupils to learn of and interpret many types of experience, unhampered by the requirements which frequently accompany the study of problems in content subjects. It acquaints pupils with valuable books and selections which would otherwise escape their attention. It secures growth in ability to interpret and appreciate selections of superior quality. This is largely the result of discussions and activities which frequently accompany the group study of selections. It also acquaints pupils with the values of different types of reading material and stimulates wider interest in reading than might otherwise be developed.

Provision should be made for the wide reading of wholesome books and selections, rather than for the intensive study of a limited amount of material. The story or experience as a whole should be emphasized rather than detailed facts. Teachers should frequently suggest books and selections to read which relate to the lines of interest cultivated in the study of specific selections. Children should be encouraged to bring to school or to report on interesting books or selections which they have read at home. Interpretative oral reading may be emphasized to advantage during the literature period when selections are studied which may be read aloud to advantage. On such occasions teachers may read frequently in order to provide good models of expression and to acquaint pupils with the beauties of selections, particularly poetry, which cannot be done so effectively in silent reading periods. Additional suggestions concerning methods of teaching literature in the fourth, fifth, and sixth grades are presented in Chapter VI.

Independent reading in school or at home. A common aim of supervised library reading, of reading and study in content subjects, and of group reading of literary selections is the enrichment of experience and the stimulation of keen interest in reading. In order to establish habits of independent reading, pupils should be encouraged to read at home or during free periods the interesting books and selections discovered during the library period. Similar provision should be made for reading independently interesting books relating to topics studied in content subjects or during the literature period. There should be the closest co-operation between various school activities in stimulating interest in reading and in establishing independent reading habits. Each classroom activity should frequently stimulate interests which can be satisfied through reading. The school library should provide the necessary books which may be read both at home and in school. If pupils are keenly interested in given books and selections, there is little or no need of imposing artificial checks to determine the thoroughness of the reading. The natural time to report on such readings is in connection with the study and discussion of problems to which they relate. It may be desirable at times, however, to provide special periods in which pupils may report to their classmates and teacher special contributions gained through their reading.

Regular reading periods. As a rule, from two to three days should

be used each week for a variety of activities which aim to promote good habits of reading and study on the part of all pupils. Instruction in some schools is justly criticized because no organized effort is made to bring each pupil to a satisfactory level of efficiency in all phases of reading by the end of the sixth grade. In order to avoid this difficulty, it is recommended that regular periods be set aside each week for systematic training and drill, if it is needed. On the other hand, reading instruction in many schools is limited to drill exercises and to the group study of selections found in readers. In order to avoid this error, opportunity should be provided for wide reading in the library, at home, and in each content subject, as well as during the literature period.

It is impossible, for several reasons, to recommend a program of activities for the regular reading periods which will meet equally well the needs of all schools. In the first place, pupils enter each grade who differ widely in reading achievement and needs. For example, many pupils who enter the fourth grade have not learned to read simple content material effectively and need training similar to that recommended for second- and third-grade pupils. In such cases most of the regular reading periods should be used for systematic instruction at the appropriate level of advancement. This training should be supplemented by provision for wide reading in the library, at home, and in content subjects. On the other hand, some pupils who enter the fourth grade are two or three years in advance of normal expectancy in reading. It is evident that little or no formal drill is necessary for them and that the regular reading periods may be used to advantage for other purposes. The problem of instruction in these grades is further complicated by the fact that some pupils advance in reading more rapidly than other pupils and that a given pupil advances in some phases of reading more rapidly than in others. Because of the wide variety of problems which are encountered by teachers in providing for group and individual needs, the plan has been adopted of recommending types of training which have proved valuable in the fourth, fifth, and sixth grades. It will be necessary for each teacher to make continuous studies of the needs of her pupils in order to determine which types of training should be emphasized most.

1. Careful reading of selections under direction in order to cultivate a thoughtful reading attitude and to improve comprehension.

2. Training in habits of study which are common to several reading situations, such as following printed directions, using books economically and effectively, and making outlines or organizations of materials read.

3. Exercises to increase speed of silent reading. The wide reading of simple interesting selections is without doubt one of the most effective means of increasing the rate of reading. Timed exercises, with attention directed to the content, are also valuable in this connection.

4. Training in habits of recognition. As a rule, this involves training in word analysis, in the use of diacritical marks, and in the rules of accent and syllabication. It may also include drill in phonetic analysis, in rapid recognition, and in span of recognition.

5. Specific practice to overcome difficulties and errors noted in the various reading activities in which pupils engage. Teachers should keep a daily record of such difficulties and should provide special periods of training as frequently as occasion demands.

6. Systematic testing of the achievements of pupils. Needed instruction should be provided for entire classes, small groups, or individual pupils.

7. Diagnostic and remedial work. While the teacher is engaged in these activities with one or more pupils, the remainder of a class may devote themselves to a special assignment or they may read independently at their seats or at the library table books in which they are interested.

The profitable use of the regular reading period cannot be over-emphasized. Each teacher should study the needs of her pupils so carefully and provide appropriate group and individual instruction so effectively that no pupil will reach the end of the sixth grade who has not formed desirable reading attitudes, habits, and skills.

Desirable levels of achievement. Pupils who complete satisfactorily the requirements of the fourth period of reading instruction reveal the following characteristics by the end of the sixth grade:

1. They are familiar through reading with many of the common fields of human experience.

2. They have acquired strong motives for, and keen interest in, reading for information and pleasure.

3. They have developed a broad foundation in habits of intelligent interpretation and study, including reading for a variety of useful purposes.

4. They approximate maturity in the fundamental habits of reading, such as rate and accuracy of recognition, a wide span of recognition, rhythmical progress of perception, a wide eye-voice span in oral reading, and speed in silent reading.

5. They use books, dictionaries, encyclopedias, and sources of information economically and skilfully.

The achievements of pupils may be determined objectively and compared with current standards of accomplishment through the use of the following standardized reading tests:

Burgess Scale for Measuring Silent Reading Ability
Chapman-Cook Speed of Reading Test
Curtis Silent Reading Test, No. 2
Gray Oral Reading Check Tests
Monroe Silent Reading Test
Standardized Oral Reading Paragraphs
Stanford Reading Examination
Starch Silent Reading Test
Thorndike-McCall Silent Reading Tests

The fact has been emphasized in earlier chapters that the standard scores which accompany reading tests are based on the results of instruction as it has been given in the past. In a study including the use of five standardized tests, evidence was secured which shows that schools may easily surpass current standards of accomplishment by providing wide reading opportunities and by making use of improved methods of teaching. In the outline which follows, the average scores are given of pupils who satisfactorily fulfilled the requirements of the fourth reading period at the end of the sixth grade. The standard scores as well as the proposed desirable standards are included for purposes of comparison. Desirable standards should be determined for the other tests listed above.

1. In depth of comprehension:

Monroe Silent Reading Test
Sixth-Grade Standard Score, 21
Desirable Standard, 23
Thorndike-McCall Silent Reading Test
Sixth-Grade Standard Score, 53.7
Desirable Standard, 56

2. In rate of accurate interpretation:

Burgess Scale for Measuring Silent Reading Ability
Sixth-Grade Standard Score, 50
Desirable Standard, 56

3. In speed of silent reading:

Starch Silent Reading Test
Sixth-Grade Standard Score, 192 words per minute
Desirable Standard, 250 words per minute

4. In speed and accuracy of oral reading:

Gray Oral Reading Test
Sixth-Grade Standard Score, 48
Desirable Standard, 55

**G. THE PERIOD OF REFINEMENT OF SPECIFIC READING ATTITUDES,
HABITS, AND TASTES²⁵****The Junior- and Senior-High-School Grades**

Distinguishing characteristics of the period. By the time pupils enter the seventh grade, a large majority of them approach maturity in the fundamental habits of both oral and silent reading. They have made notable progress in habits of intelligent interpretation and in reading effectively for different purposes. They have acquired strong motives for reading, and they have developed numerous habits and skills which are essential in the effective use of books, libraries, and sources of information. By virtue of such accomplishments, seventh-grade pupils enter a period in which specific reading attitudes, habits, and tastes should be rapidly refined and perfected. The ultimate goal is to secure independence and efficiency in all school and life activities that involve reading.

A second distinguishing characteristic of the period is emphasis on conscious learning. In the primary grades, growth in ability to read begins by unconscious imitation of the teacher and by following her directions. In the fourth, fifth, and sixth grades, the habits thus initiated are further developed through wise direction and supervision. In the junior and senior high schools, skilful direction is continued and supplemented by simple explanations of reading processes, deliberate study by the pupils of their own habits, and

²⁵ Special acknowledgment is due to S. A. Leonard and R. L. Lyman for sections of this chapter and for numerous constructive criticisms of the chapter as a whole.

further extensive practice to secure improvement.²⁶ A reasonable survey may now be undertaken with the pupils of the causes for, and the nature of, those habits and skills that make pupils proficient in various reading activities.

Specific aims. The specific aims of reading in junior and senior high schools follow:

To extend further the experiences of pupils and to increase greatly their intellectual apprehension. Each subject studied should require wide reading of books, selections, newspapers, and periodicals that contribute to a broader understanding of the problems studied.²⁶ Both recreational and work-type reading should be included.

2. To promote and refine reading interests and tastes which will direct and inspire the present and future life of the reader and provide for the wholesome use of leisure time.²⁶ Special attention should be given at this time to the development of permanent interest in current events and of the habit of reading periodicals with speed and good judgment. It is equally important to acquaint pupils somewhat thoroughly with the sources and values of different types of reading material and to develop standards for use in selecting materials to read.

3. To promote vigorously on all occasions habits of intelligent interpretation, to improve and refine the habits that are involved in reading for different purposes, and to stimulate and direct keen critical interpretations of what is read. Reading at this level of advancement, as well as in the earlier grades, should be largely a process of thinking and every effort must be made to inculcate effective habits while reading.

4. To provide individual or group instruction in the fundamental habits of silent and oral reading whenever the need for it exists.

5. To improve and refine habits of expressive oral reading, particularly of literary and dramatic selections, and in connection with public and class activities that require it.

6. To develop a high degree of skill in the use of books and library privileges, and to make rapid progress in locating, collecting, and summarizing printed materials.

²⁶ For parallel and supporting statements, see pp. 31-32, *Reorganization of English in Secondary Schools*, Bureau of Education Bulletin, No. 2, 1917. Washington: Bureau of Education.

Essential reading activities. In order to accomplish these aims, six types of reading activities should be provided and carefully directed. They are: (a) the work or study type of reading in practically all subjects; (b) extensive reading of assigned or suggested references to supplement the information gained from intensive study and class discussions; (c) group recreational reading and enjoyment of selections of good literature; (d) interpretative oral reading in class when occasion demands, in connection with public appearances, and in the enjoyment of literary and dramatic selections; (e) free and independent reading in school or at home of current events, periodicals and books and selections for information or pleasure; and (f) group or individual instruction in the fundamental habits of silent and oral reading for pupils who are unable to read satisfactorily. Each of these types of reading activities will now be discussed briefly.

The study, or work, type of reading. Experience teaches that one of the major contributing causes of failure in junior and senior high schools is the inability of pupils to read textbooks with skill and intelligence. The recognition of this fact has led to the demand that the teacher of each subject understand clearly and pass on to her pupils those reading and study habits which capable workers in the respective fields must possess. Arrangements have been made in many junior high schools to emphasize systematically in English classes various important habits²⁷ of silent reading, such as "varying the rate of silent reading in accordance with the reader's purpose and the nature of the selections," "looking for the author's central idea and leading divisions," "making mental reviews, or taking backward looks during the reading," "contributing to the selection, or reading between the lines," and "finding special information, or locating particular passages." Such training should be supplemented, however, by instruction in habits of reading and study that are more or less peculiar to given subjects. Three examples follow:

1. To comprehend a principle or an explanation, such as a statement of the principle of refrigeration in a general science text, or the explanation given in a civics text of representation in the senate.

²⁷ Howard Copeland Hill and Rollo LaVerne Lyman, *Reading and Living*, Book One, pp. x-xiii. New York: Charles Scribner's Sons, 1924.

G. A. Yoakum, *The Effect of a Single Reading*. University of Iowa Studies, No. 77. Iowa City, Iowa: University of Iowa.

2. To understand a problem to be solved or a task to be done, such as grasping the essential conditions of a mathematics problem or of written or printed assignments in science.

3. To grasp the central idea in textbook material which is new to the reader, such as a detailed account of Burgoyne's Invasion in a history assignment.

As new problems in study or work-type reading are encountered, teachers should instruct pupils in the steps or processes which prove most effective. For example, in reading a mathematics problem the following procedure²⁸ may be recommended: A deliberate first reading in order to determine the essential conditions; a deliberate second reading, if necessary, to understand all of the facts and their essential relations; restating in one's own words what is given and what is found; recalling related processes needed for the solution of the problem; and a final rapid reading of the problem to secure the figures and facts that must be used in making the necessary calculations. Obviously, instruction concerning such matters and the necessary practice belong in mathematics classes.

Extensive or supplementary reading. The reading of reference books, periodicals, and newspapers to supplement the reading of textbooks is now considered a very important function of junior and senior high schools. This type of reading is highly important because it extends the experiences of pupils far beyond the limits of class discussions and intensive reading assignments. It quickens their thinking concerning numerous problems in a given field. It intensifies their interest in such problems and frequently leads to the discovery of vocational or professional interests. In the field of the social sciences, extensive reading acquaints pupils with many dominant social problems and tendencies that could not otherwise be so clearly recognized. Many schools encourage extensive reading by providing working libraries in each classroom which may be used freely during reading or study periods.

An analysis of school practises in making supplementary assignments reveals at least three important purposes of such reading:

1. To secure definite information on specific points assigned or questions asked, as, for example, reading rapidly a chapter of Jane

²⁸ Paul W. Terry, *How Numerals Are Read*. Supplementary Educational Monographs, No. 18. Chicago: Department of Education, University of Chicago, 1922.

Addams' *Twenty Years in Hull House* to find answers to a few assigned questions.

2. To find new or additional information upon a topic or problem under consideration, as, for example, reading Enos Mills' *The Story of a Thousand-Year Pine* to secure new and valuable ideas about the preservation of forests.

3. To secure new points of view and new outlooks upon life, as for example, the reading of Hamlin Garland's *Son of the Middle Border* to learn of pioneer life on the American frontier of 1850-70; or the reading of *Ramona* to learn Helen Hunt Jackson's interpretation of the treatment of California Indians.

Every teacher who leads pupils into paralleling, contrasting, or enriching intellectual experiences through reading books or selections outside of textbooks should appreciate fully, and lead her pupils to a clear understanding of, the difference between extensive and intensive reading. For example, in contrast to the technique employed in reading a mathematics problem, the following steps may prove effective in wide reading to secure new points of view or new outlook upon life: a fluent single reading largely to comprehend the story; finding and following the author's main theme; comparing and contrasting with ideas already in mind; estimating the value or significance of statements; possibly a slower re-reading of parts which seem to have special significance; a final mental summary of main contributions and supporting data.

The reading and enjoyment of literature. The term "literature" is here used to indicate materials which are characterized by their literary excellence, primarily the materials of the literature class. The fact is clearly recognized that texts and informational reading books are different in kind, both as to form and as to content, from *belles lettres*. The point of view is taken in this report (Ch. VI) that reading of *belles lettres* at the junior-high-school level ought to depart widely from analytical study and to provide for extensive reading and the gaining of rich experience. In this connection extensive library assignments and wide individual reading are essential. The junior high school may wisely stress the value of literature as experience and acquaint pupils with the sources of interesting, wholesome reading materials, reserving for the senior high school, and still better for the university, emphasis on literary or artistic values.

An analysis of the experience of junior-high-school pupils with "literature" reveals at least three prominent purposes of reading that merit careful consideration in a program of instruction. In connection with each pupils should be trained to adopt reading procedures appropriate to each situation.

1. To read rapidly in order to enjoy the action and events of a story, as, for example, Irving's *Rip Van Winkle* or Mark Twain's *Huckleberry Finn*.

2. To understand and interpret characters, as, for example, the hero in Eliot's *Silas Marner* or in Browning's *An Incident of the French Camp*.

3. To read aloud in order to enjoy certain selections more fully, as, for example, Browning's *How We Brought the Good News* or Riley's *The Circus-Day Parade*.

The purpose and procedure in teaching literature in senior high schools are very similar for the most part to those recommended by junior high schools. Brief reference is made here to some of the differences. The selections which are read in senior high schools require more enrichment through a clearer realization of the author's purposes and of the times and conditions under which they were written. Skilful teaching requires restraint and an artistic power of presentation or of direction in study by the teacher. The books, too, require of the reader discovery of the central theme, purpose, or idea of the whole. This does not mean, however, that a long or wearisome time should be given to the study of a given book. In the last year a systematic course in English literature is appropriate. In this connection students who plan to go to college may be given an introduction to literary analysis. The fact should be remembered, however, that the chief function of literature is to enrich experience and to contribute to a fuller understanding of life.

Free and independent reading. Obviously, the ultimate use of reading made by cultivated and skilled people is the perusal of materials which fall in line with their occupational and recreational interests. Such reading may be characterized, in general, by the adjectives *free* and *independent*. Studies of popular reading of this category unfortunately reveal tastes for the cheapest of insincere and trivial stories. The inability or unwillingness of most adults to enrich their minds with worthy reading is proverbial. While it is certain that the junior high school may accomplish much by

intelligent guidance in supplementary reading, it is increasingly evident that reasonably guided library experience ought to be considered as somewhat apart from, and in addition to, the reading experiences that are commonly associated with class work.

With these facts in mind, progressive schools should equip themselves with extensive libraries in charge of trained librarians and should devote a substantial part of their English time to library reading. They should also organize "reading groups" of boys and girls of similar tastes and abilities, which are supervised by teachers who sympathetically keep in touch with, and direct the reading choices of, their respective groups. Furthermore, each teacher of a content subject should provide pupils with lists of interesting books in their respective fields and should stimulate interest in reading them. English teachers ought to make a special point of cultivating interest in, and intelligent use of, newspapers and periodicals and of acquainting pupils with the sources and values of various types of reading materials. The co-operation of the home should be secured in developing habits of independent reading.

There is danger that schools may inaugurate so many activities that the average or inferior pupils, overwhelmed and embarrassed, may accomplish nothing well. Every effort should be made to direct the activities of such pupils, to the end that they do not undertake too much. On the other hand, it is just as important that adequate provision be made for pupils of superior ability, who are too often engaged with relatively simple assignments, almost never exerting their full capacities. All junior- and senior-high-school pupils should be directed into wisely supervised library activities, each pupil developing along the lines of his greatest interest and in harmony with his capacity. Very wide provision for the unusually capable pupils is quite as essential in a program of instruction as the diagnostic and remedial work recommended for those who encounter serious difficulties in reading.

Expressive oral reading. There are frequent occasions when pupils should read aloud to others—for example, in presenting an original report, in citing evidence in support of a view expressed in class discussion, or in participating in recreational reading of literary selections, particularly poetry and drama. Although this type of

reading is far less important than intelligent silent reading, the position taken in this report is that pupils should be trained to read to others effectively. A clear distinction should be made, however, between training pupils to read well and preparing them for expert service as public readers or elocutionists. Only a relatively small number of junior- and senior-high-school pupils have the capacity or need for intensive training of the latter type. Furthermore, many pupils are unable to attain even a satisfactory level of accomplishment without the expenditure of much time and energy. Individual differences in capacity must be recognized and the requirements modified according to needs and accomplishments in all phases of school work.

Provision for the direction of reading activities. Unless a program of instruction is carefully organized, there is danger that there will be little or no expert direction of reading activities in junior and senior high schools. At the risk of some repetition, the discussion which follows describes a natural division of such responsibilities:

Teachers of each subject that requires reading. Each teacher who makes reading assignments is responsible for the direction and supervision of the reading and study activities that are involved. This includes careful directions concerning the preparation of materials assigned to be read, discussions of the best procedures to follow in activities that involve reading, special emphasis on reading and study habits that are peculiar to a given subject, continuous efforts to determine the accomplishments and difficulties of pupils, and the provision of help for the pupils who need it. They should also provide opportunities for extensive reading of assigned or suggested references, including newspapers and periodicals, and should assume responsibility for supervising such activities. In this connection it is necessary for them to keep in touch with new reading materials in their fields and to recommend at frequent intervals that appropriate reading materials be added to the library collection.

Teachers of each subject should feel responsible for supervising whatever oral reading is essential in the activities of their classes. Definite preparation should be required, if necessary, and high standards of performance maintained. In connection with these activities, each teacher should make continuous studies of the reading needs of the members of her classes and should refer pupils

who are noticeably weak in silent or oral reading to the special teacher of reading, to whom reference will be made later.

In organizing classes in any subject in which a large amount of reading is required, the fact should be remembered that some pupils read much more rapidly and effectively than others. Experience teaches that superior pupils do far more work in a given period of time and interpret more intelligently and critically what they read than do normal or inferior pupils. It is essential, therefore, that provision be made for special assignments for, and individual work with, inferior pupils and for enriched reading experiences for superior pupils.

Teachers of literature. Teachers of literature, as well as teachers of other subjects, are responsible for skilfully directing the reading activities of pupils in their classes. This includes training in appropriate reading procedures, checking the accomplishments and needs of pupils, providing group and individual help when needed, and referring to the remedial teacher pupils who reveal gross defects in fundamental reading habits. Teachers of literature are peculiarly responsible for stimulating keen interest in recreational reading, for refining reading interests and tastes, for training pupils in the sources and values of different types of reading material, and for developing appropriate standards for use in selecting materials to read. Special studies should be made of newspapers and magazines and continuous effort exerted to establish the habit of reading them regularly and intelligently. Furthermore, teachers of literature, particularly of poetry and the drama, should assume responsibility for the improvement of habits of expressive oral reading when it is essential to the interpretation and enjoyment of the selections read.

Special teachers of reading. All junior high schools and most senior high schools should have on their faculties one or more expert teachers qualified to give specific training in habits of silent and oral reading. Inventories should be made at frequent intervals of the reading accomplishments and needs of pupils. All who fall noticeably below the sixth-grade standards should be given instruction in reading during a special training period until a satisfactory level of accomplishment has been reached. Furthermore, all pupils who encounter unusual difficulties in reading should be referred to the special teacher for diagnosis and remedial treatment. Unless some such provision is made for correcting fundamental

defects, there is grave danger that the difficulties which these pupils encounter will never be corrected and that they will be seriously handicapped in all school activities that require reading.

The librarian. The librarian is responsible first of all for providing the books and selections to which the pupils are referred in the various classes. She should also aid the members of the faculty in securing new books relating to their respective fields as soon as they are published. She should keep records of the withdrawals of books by individual pupils and from time to time should make studies of the amount and character of their reading. The information secured through such studies should be referred to the appropriate teachers with suggestions concerning types of material in which the pupil should be interested. She should also endeavor to extend the reading interests of these pupils by acquainting them with new and interesting books and to modify their tastes where such changes are desirable through suggestions offered in individual conferences. Finally, she should observe continuously the reading habits of pupils, make specific suggestions to individual pupils, and refer to the reading teacher those who give evidence of serious difficulties.

CHAPTER IV

THE DEVELOPMENT OF A MEANINGFUL VOCABULARY AND OF INDEPENDENCE IN WORD RECOGNITION

Purpose of this chapter. This section of the report deals, first, with the development of a rich meaning vocabulary and the initial association of spoken words with their written symbols. This is followed by a discussion of methods of word analysis and of the place of phonetic analysis in word recognition. The chapter concludes with the outline of a program embodying the principles and practices discussed. The relation of words to the complete reading process is emphasized throughout.

The place of word recognition in the reading process. The reader must recognize words and must fit them into the meaning of his text. This means instantaneous recognition of known words and groups of words and effective habits of independent attack in dealing with unknown words.

Certain facts concerning the process of recognition have been clearly established, notably by the experimental work of Judd, Buswell,¹ Gates,² and others. For example, the mere "word caller" is not a good reader from the standpoint of comprehension. Furthermore, the reader who does comprehend effectively usually grasps words and groups of words quickly; his interpretation of the thought is not interrupted by struggles with word forms; slight cues are sufficient to set off word recognition. To the "word caller" the recognition of words is an end in itself and is often accomplished with little or no regard for meaning; to the good reader the word is a symbol through which he grasps meaning.

The pupil who has word difficulties, either of meaning or of pronunciation, is to that extent handicapped in his reading possibilities. The teacher of reading in every grade may encounter pupils whose ability in word recognition varies all the way from the zero limit of the beginner to the skill of the good reader whose limitations are

¹ Guy Thomas Buswell, *Fundamental Reading Habits: A Study of Their Development*, Ch. III. Supplementary Education Monographs, No. 21. Chicago: Department of Education, University of Chicago, 1922.

² Arthur I. Gates, *The Psychology of Reading and Spelling with Special Reference to Disability*. Teachers College. Contributions to Education, No. 129. New York: Teachers College, Columbia University, 1922.

felt only in certain new words and idioms which he is adding to his vocabulary. Whatever the stage of development of the individual pupil, the teacher must endeavor to improve his recognition of words as symbols of meaning.³ He must learn to perceive words accurately and to recognize them quickly. Because of its greater importance, attention is directed first to the problem of developing meaningful association with words.

DEVELOPMENT OF A RICH MEANING VOCABULARY

Relation of vocabulary to total reading process. In all assimilative reading, grasp of content depends upon the associations made as the words are seen. When associations are definite and numerous, the results are rich; when associations are hazy and few in number the results are vague. Dewey⁴ says: "To grasp . . . a word in its meaning is to perform an act of intelligent selection or analysis." Growth in reading power means, therefore, continuous enriching and enlarging of the reading vocabulary and increasing clarity of discrimination in appreciation of word values.⁵

Need for definite vocabulary training. All enrichment of experience, both within and without the school, has a direct influence upon the reading vocabulary. Valuable as is this source of growth, the school must supplement it with very definite training in order to insure rapid growth. There must be conscious selection of experiences which are valuable for pupils, the choice of words to associate with these experiences, and thorough training in the use of this vocabulary. Provision must be made for the measurement of progress and for individual needs. This is a common problem for all the teachers who are dealing with a single group of children

³ S. S. Brooks, *Improving Schools by Standardized Tests*: pp. 146-147. Boston: Houghton Mifflin Co., 1922.

Clarence T. Gray, *Deficiencies in Reading Ability*, Chapters IV, V, VI, XXII. Boston: D. C. Heath and Co., 1922.

⁴ John Dewey, *How We Think*. P. 180. Boston: D. C. Heath and Co., 1910.

⁵ S. H. Clark, *Interpretation of the Printed Page*. Ch. XIV. Chicago: Row, Peterson and Co., 1915.

J. B. Kerfoot, *How to Read*. Ch. I. Boston: Houghton Mifflin Co., 1916.

Sterling A. Leonard, *Essential Principles of Teaching Reading and Literature*. Ch. VI. Philadelphia: J. B. Lippincott Co., 1922.

Edward L. Thorndike, "Reading as reasoning; a study of mistakes in paragraph reading." *The Journal of Educational Psychology*, 8 (June, 1917).

and may well be studied in all schools organized upon a platoon or departmental basis. Chapter III and Chapter V discuss vocabulary enrichment for the younger pupils and in the content subjects respectively.

Vocabulary training must consist of a coherent, progressive program of work, based upon careful studies which have been made and which lead to further investigation. In many schools at present it is a haphazard day-by-day attack on new words without regard to the relative importance of words or to the laws of learning, the use of which leads to permanent retention. But when treated intelligently, the right type of training reacts upon every phase of school activity.

Selection of vocabularies for training. Frequency of occurrence is one measure of the importance of a word.⁶ The frequency may be determined from general reading vocabularies, such as those given in Chapter VII of this report or the Thorndike word list,⁷ or from the reading vocabularies for specific grades or specific subjects, as in the Winnetka⁸ and the Pressey⁹ studies. Just as our teaching of spelling has been improved by directing attention to the words most frequently needed in writing vocabularies, so our development of reading vocabularies will be strengthened by following the same principle of selection. To the extent that teachers' manuals make use of this principle, they are safe guides to follow in selecting words, word elements, and groups of words for drill purposes. So, too, in the higher grades it is necessary to provide experiences which will familiarize pupils with the meanings of the specialized vocabularies pertaining to the given subjects.

The relation of a given word to a given context is another measure of word importance. It is possible for a specific word to need extended explanation in a certain connection although its

⁶ F. M. McMurry, *How to Study*. Ch. V. Boston: Houghton Mifflin Co., 1909.

⁷ E. L. Thorndike, *The Teacher's Word Book*. Teachers College, Columbia University, New York City, 1921.

⁸ Mabel Vogel, Emma Jaycox, and Carleton W. Washburn, "A basic list of phonics for Grades I and II," *Elementary School Journal*, 23 (February, 1923), 436-443.

⁹ L. C. Pressey, "An investigation of the technical vocabularies of the school subjects," *Educational Research Bulletin* (April 30, 1924). Columbus: Ohio State University. (Lists from Public School Publishing Company, Bloomington, Illinois.)

general use by the pupils will be infrequent. Care should be taken, however, that unusual words which influence the meaning only slightly do not receive undue attention. The general maturity of pupils is a factor to consider in this connection.

Attention to vocabulary when dealing with context. Both the value of a word and its general meaning depend upon the context in which it is found and the purpose with which the context is being read.¹⁰ Interpretation of the context meaning and the carrying out of the specific reading purpose both involve discussion of the text. During this discussion attention to the vocabulary of the reading material occurs naturally; both the meaning and the importance of individual words are determined by their relations to the total situation. Because this treatment is so much more valuable, the practice of listing the hard words of a lesson and drilling upon them is rapidly falling into disrepute.

While dealing with the description of a storm, pupils found all words and expressions which referred to the wind, the rain, the thunder, and the lightning. Words which dealt with these subjects were recognized readily, although many of them would have been considered hard if met in lists. Comparison of the Cratchit's celebration of Christmas with our own, as to the dinner, the games, and other festivities, brought ready handling of the vocabulary involved.

Whenever the study of a character, the unraveling of a complex situation, or the appreciation of a word picture forms the nucleus for discussion, attention should be given to specific words, idioms, and groups of words.¹¹ An excellent use of synonyms is possible here, by having a pupil ask the class for a synonym, or synonymous expression, for an unknown word. At times, an illustrative sentence may clarify the meaning.

Gradual refinement of word meaning. Words differ greatly among themselves as to the shades of meaning which they convey in different contexts. The same word may also have many meanings. The associations with a given word may vary from one given by frequent or striking usage to those which are made very occasionally. The

¹⁰ Edward L. Thorndike, "Reading as reasoning: a study of mistakes in paragraph reading." *The Journal of Educational Psychology*, 8 (June, 1917).

¹¹ Clarence R. Stone, *Silent and Oral Reading*. Pp. 193-203. Boston: Houghton Mifflin Co., 1922.

dictionary definitions are applicable to the word under varying conditions and are often difficult for children to understand; therefore, methods must be found to strengthen valuable associations in less complex ways than by reference to definitions. Exercises which call attention to words of opposite meaning, to words belonging to a common classification, or to words having related meaning, are valuable in this connection. In some texts simplified vocabularies are arranged in alphabetical order as little dictionaries, and synonyms or explanations take the place of formal definitions. These should be referred to incidentally in clearing up meaning difficulties. Eventually, the use of the dictionary will be taught and pupils trained to use it with judgment when dealing with essential words.

The idiomatic use of certain common words or word endings often proves puzzling to children. Words which give a negative point of view or limit the thought in unexpected ways need especial attention: *not only, if, unless, but* meaning *except* are examples.

Standards for judging vocabulary growth. The standard tests devised for testing pupils' vocabularies should have wider use. For an account of them see Chapter IX. Informal tests should be devised by the teacher. Children should learn that to enlarge one's vocabulary is a desirable form of growth, that the person with a large vocabulary for ready use is better able "to command what he wants."

INITIAL ASSOCIATION OF SPOKEN WORDS WITH THEIR WRITTEN SYMBOLS

Presentation of words to beginners. The beginner in reading already has a speaking vocabulary in keeping with his experiences. Chapter III stresses the need for rich experiences associated with an appropriate vocabulary before the reading process is attempted. A pupil learns to read by learning to recognize the written or printed symbols that stand for the spoken words which he knows. Early work in reading must be strongly motivated, so that it seems worth while to the child to make the association between the known spoken word and its unknown symbol. Skilful teaching must provide much repetition, for only through repeated associations of meaning with symbol does the child learn the unknown symbol. The fact is widely recognized that the early lessons must deal with words

and word groups as units until the meaningful associations have been definitely established. Directness of association between the printed symbol and the appropriate meaning, as well as pleasurable feeling, assure rich returns from work of this type.

Marked advance¹² has been made in recent years in discovering those situations in the young child's experience in which the reading of words or word groups will be of greatest interest and value. For example, action words are connected with his common activities: *run, jump, hop*. Color words are used to label crayon boxes: *red, yellow, blue*. Signs are made for his projects: *grocery, market, street car*. Pictures of common objects are associated with their names: *house, chair, dishes*. Labels are put upon objects in the room: *door, desk, picture*.

The number of repetitions needed to make certain the recognition of a word varies with the intelligence and stage of development of the individual child.¹³ The present tendency to test children early in the first grade and to group them according to the results of such tests, helps the teacher to know what to expect of individual children. The habit of certainty in word recognition should be cultivated from the first. The frequent recurrence of concrete situations involving the use of given words or groups of words is the most valuable basis for repetition. New words which are to be mastered should be presented to children who learn slowly, only as rapidly as they can learn them well. With such children incomplete learning consisting of hazy and indefinite associations should be avoided.

Wide variation exists in practice as to the number of words which are taught in this way before children begin to use books. The tendency seems to be toward increasing the number so learned.

¹² Patty Smith Hill and others, *A Conduct Curriculum for the Kindergarten and First Grade*. New York: Charles Scribner's Sons, 1923.

Annie E. Moore, "The Use of Children's Initiative in Beginning Reading," *Teachers College Record*, 17 (Sept., 1916) pp. 330-343. Teachers College, Columbia University, New York City.

Mary E. Pennell and Alice M. Cusack, *How to Teach Reading*. Boston: Houghton Mifflin Co., 1923.

¹³ S. S. Brooks, *Improving Schools through Standardized Tests*, Pp. 162-164, 191. Boston: Houghton Mifflin Co., 1922.

Samuel Chester Parker, *How to Teach Beginning Reading*. P. 4. Boston: Ginn and Co.

Emma Watkins, *How to Teach Silent Reading to Beginners*, Chs. IV and V. Philadelphia: J. B. Lippincott Co., 1922.

A low estimate is fifty. The average for first-grade classes in one city is about eighty.

METHODS OF WORD ANALYSIS

First impression of printed symbols. The discussion thus far has related to the development of meaningful associations with printed symbols. Attention is directed next to more detailed processes involved in word recognition. At first, the child gets only a confused mass of sense impressions from the printed page. The teacher should realize how disorganized these impressions are and should emphasize significant details in efforts to make them clear and distinct. Teachers' manuals usually indicate the specific words and word elements to which attention should be directed.

As the known details increase in number, the mass of indistinct sense impressions becomes an orderly arrangement of known words and groups of words. This is clearly shown by the studies of eye-movement which reveal numerous "periods of confusion" in the early reading and the gradual disappearance of word difficulties later.

Distinct sense impressions essential. Accuracy in the perception of words depends first of all on distinct sense impressions. This distinctness hinges upon sense organs being in normal condition. Eye, ear, and speech defects must be overcome in order to secure satisfactory results. Reading difficulties in any grade may be due either to defective sense organs or to inadequate training in word recognition. The remedy in the latter case lies in the building up of a carefully selected vocabulary within the limits of the pupil's ability.

The discovery of units of analysis. The word is a natural unit in reading because pupils are using words constantly to express ideas in oral language. Smaller units of analysis—sounds, letters, syllables—do not have this close association with ideas. Gradually, pupils become aware of likenesses and differences in the written or printed words which they are learning. These likenesses and differences may relate either to sound or to form. Initial sounds, notably *s*, *f*, *l*, or rhyming words, catch the ear, so that the child says: "*Sit* sounds like *sing*, *hen* sounds like *pen*." Or capital letters catch the eye and the child says: "I know Jack when I see this," pointing to the *J*. The teacher takes advantage of this awareness

of similarities and differences and builds upon it. An intelligent pupil finds real joy in applying the newly discovered units when meeting unknown words.

Strangely enough, maturity in reading seems to reverse this process. Practice in associating known words with the process of interpretation, which is true reading, increases ability to get words from the context and to perceive groups of words. Slight cues eventually suffice to connect the printed page with the flow of thought. As Huey says: "Indeed, hundreds of phrases and sentences have occurred so often in our speech that they have a place in mind as specific memory-wholes; and as slight a glimpse is needed to start the recognition of these as when the tap of a cane suffices to announce the approach of our grandfather."¹⁴

The earlier studies of perception in reading were made with adults by means of the tachistoscope. Only recently have research workers¹⁵ turned their attention to perception in reading as related to the beginner and to remedial cases. Both of these are promising fields and the results will undoubtedly give certainty to our methods of teaching by settling on a scientific basis controversial points which are at present argued on a basis of opinion and of limited experience.

Analysis by visual likenesses and differences. This method is more valuable than many teachers realize. It is used when a pupil is asked to match words and groups of words or to distinguish between words which look very nearly alike. Teachers often note that recognition of words is influenced by their relative length, their general shape,

¹⁴ Edmund B. Huey, *The Psychology and Pedagogy of Reading*. P. 143. New York: Macmillan Co., 1908.

¹⁵ Guy Thomas Buswell, *Fundamental Reading Habits: A Study of Their Development*. Ch. III. Supplementary Educational Monographs, No. 21. Chicago: Department of Education, University of Chicago, 1922.

Arthur I. Gates, *The Psychology of Reading and Spelling with Special Reference to Disability*. Teachers College Contributions to Education, No. 129. New York: Teachers College, Columbia University, 1922.

Arthur I. Gates and Eloise Becker, "A study of initial stages in reading by preschool children," *Teachers College Record*, 24 (Nov., 1923), 469-488.

Leta Stetter Hollingworth, *Special Talents and Defects*. Pp. 58-61. New York: Macmillan Co., 1923.

¹⁶ Arthur I. Gates, *The Psychology of Reading and Spelling with Special Reference to Disability*. Ch. V. Teachers College Contributions to Education, No. 129. New York: Teachers College, Columbia University, 1922.

and the dominating letters which they contain. The work of Gates¹⁶ shows that "ability to perceive clearly the characteristic features of words" is an important factor in good reading. Just what this ability is and how it is to be trained we are not certain. Periods of confusion in eye-movements indicate that the eye is evidently seeking for familiar elements in the word.¹⁷ Not all of the parts need to be known. From those which are known and the ideas gained through a study of the context, the pupil builds up the word whole.

Recognition of larger wholes in polysyllabic words. The larger the known whole which the eye perceives, the more economical is the attack, provided the unit which is perceived has an integral relation to the word under survey: to see *basket* in *basketfuls* or *consider* in *consideration* would be better than to see *bask* in *basketfuls* or *side* in *consideration*. Unless the words *basket* and *consider* were in the pupil's reading vocabulary, the longer words would not be analyzed. Flash drills following detailed analysis help in developing independence in the recognition of the larger whole.

Recognition of common groups of words. Economy in word recognition is not reached until the reader habitually sees words in groups. This ability comes to the good reader without special training, but training is essential for the average and the slow readers. Flash phrasing should not deal with words when a pupil has reached the stage where the eye is reaching ahead for longer units. Drills on groups of words are provided with flash cards and by manuals which accompany most modern primary readers. With older pupils exercises may be given in dividing reading material into thought groups, in underlining well-known groups of words, and in selecting groups of words which are important from the standpoint of meaning.

Selection of elements for drill. Just as the modern attack upon a word comes first in context, so words for drill are selected after the need for it on a given word is evident. Three factors determine the selection of words for drill: (a) frequent need for the word in daily

¹⁶ Edmund B. Huey, *The Psychology and Pedagogy of Reading*. Ch. IV. New York: Macmillan Co., 1908.

Charles H. Judd, *Reading: Its Nature and Development*. Pp. 112-113. Supplementary Educational Monographs, Vol. II, No. 4. Chicago: Department of Education, University of Chicago, 1918.

reading activities, (b) the difficulties which given words present to individual pupils, and (c) the economy with which words related because of striking similarities or differences may be given. There is no excuse for drilling upon a word which pupils seldom meet or one which they know without hesitation. Analysis should be subordinated to the recognition of the word as a whole. It is wasteful to see words in parts except when analysis is necessary for recognition; the word whole must be recognized again and again after analysis has taken place. To continue analyzing the same word is futile.¹⁸

Decisions as to the immediate importance of a given word for individual pupils or a class rest with the teacher. She must be certain that time and energy are directed to essentials. No haphazard selection will produce results; necessary studies should be made to determine the frequency in the pupils' reading experience of words causing difficulty. The teacher should make use of the studies reported in Chapter VII and Chapter X in this connection.

The technique of drill. Modern psychology has discovered very definite laws for acquiring habits.¹⁹ All drills should be given in harmony with these laws. Parker summarizes the principles of effective drill as follows:

1. Only correct practice makes perfect; therefore,
 - a. Delay drill until a correct start is assured.
 - b. Always subordinate speed to accuracy.
2. Avoid wasting time on non-essential and accessory processes.
3. Secure zeal, interest, and concentration of attention with short, snappy, interesting, and varied drill.
4. Use ready-made drill systems.
5. Continue drill until automatic responses are secured.

Fatigue develops rapidly in drill periods because of the strain of

¹⁸ Arthur I. Gates, *The Psychology of Reading and Spelling with Special Reference to Disability*. Pp. 20-48, 89-91. Teachers College. Contributions to Education, No. 129. New York: Teachers College, Columbia University, 1922.

¹⁹ Samuel Chester Parker, *General Methods of Teaching in Elementary Schools*. Pp. 247-268. Boston: Ginn and Co.

Mary E. Pennell and Alice M. Cusack, *How to Teach Reading*. Boston: Houghton Mifflin Co., 1923.

Arthur I. Gates, *Psychology for Students of Education*, Ch. X. New York: Macmillan Co., 1923.

Frances Jenkins, *Reading in the Primary Grades*, Ch. IV. Boston: Houghton Mifflin Co., 1914.

William Henry Pyle, *Psychological Principles Applied to Teaching*. Baltimore: Warwick and York, Inc., 1924.

concentration. A maximal length of ten minutes for drill periods is therefore recommended.

Training in economical habits of attack on words. Emphasis on motivation and thought-getting may blind the eyes of some teachers to the necessity of training pupils in economical habits of word attack. As a result, ineffective habits may be developed. The present emphasis upon silent reading makes necessary a word of warning here. Unless there is constant checking of the thought obtained, some rapid readers may get into the habit of skipping unknown words or of giving them almost any meaning in order to proceed with the reading. An unknown word presents a challenge; children should be trained to respond effectively to that challenge when the word is important.

The complex nature of reading habits should lead to careful balancing of one habit against another. For example, care should be taken that the habit of discovering known parts in the middle or at the end of words does not interfere with the habit of attacking the word at the beginning and working through to the end.

The teacher should be certain that the following habits are well established:

1. The habit of attacking an unknown word and working it out independently.
2. The habit of trying to fit a word into the context.
3. The habit of seeing a word as a unit made up of known parts.
4. The habit of using tools gained in training in analysis.

Clear perception of known word groups by means of rapid eye-movements and brief fixation periods, the whole being subordinated to thought mastery, is the final end to be attained. The unknown word will always be met, with greater or less frequency, during the process. To recognize that it is unknown is essential. To have such habits of attack that its recognition is mastered economically will give the reader the needed independence in the handling of words. Valuable as are the methods of analysis that have been described, they are supplemented in most schools by the use of phonetics. Attention is therefore directed next to a discussion of the place of phonetics in word recognition.

THE PLACE OF PHONETIC ANALYSIS IN WORD RECOGNITION

Controversial questions. Conflicting opinions regarding the place of phonetic training have prevailed for many years. The main con-

troversy is: should phonetic training hold a place of primary or secondary importance in the teaching of reading? Certain claims and assumptions are made which need careful examination. To help clarify these issues a few such points will be mentioned briefly.

1. The value of definite phonetic methods is magnified when compared with the results of poorly organized teaching.
2. Unsupported claims are made as to superiority of one phonetic method over another.
3. The assumption is made that, since a word is composed of phonetic elements, it can be taught most easily through phonetics.
4. Untrained administrators can see results in word calling, even when they do not understand the complexities of the reading process.
5. Untrained teachers can be trained more easily to teach word-calling than to teach thought-getting.
6. The commercial aspect unfortunately at times seems to overshadow the educational.

There is abundant evidence that phonetic training has some values. Controlled experiments will make these values clear. Assumptions which cannot be supported, in time, with clear evidence, should disappear from professional discussion.

Present status of scientific investigations. A comprehensive report covering such investigations as have been published in this field has recently been prepared by William S. Gray. Attention is called in the report to the fact that many of the results of these studies are unreliable because the conditions under which the experiments were conducted were not controlled. Therefore, differences in the results are frequently due to differences in the capacity of pupils to learn, in the skill of teachers or in other varying conditions.

The need of developing effective habits of word recognition is shown in studies reported by Judd,²⁰ Buswell,²¹ and Gates.²² Unless

²⁰ Charles H. Judd, *Reading: Its Nature and Development*, pp. 58-65. Supplementary Educational Monographs, Vol. II, No. 4. Chicago: Department of Education, University of Chicago, 1918.

²¹ Guy Thomas Buswell, *Fundamental Reading Habits: A Study of Their Development*. Chapters 1 and 3. Supplementary Educational Monographs, No. 21. Chicago: Department of Education, University of Chicago, 1922.

²² Arthur I. Gates, *The Psychology of Reading and Spelling with Special Reference to Disability*. Chs. V. and VI. Teachers College. Contributions to Education, No. 129, New York: Teachers College, Columbia University, 1922.

such habits are developed, the reader is seriously handicapped when meeting unknown words. Phonetic analysis is one type of training which builds up desirable habits.

Children differ in their reaction to phonetic training. Some acquire independence in word recognition with little or no formal training. Other children need a larger amount of training to render them independent. Still others are more or less helpless even after they have had considerable training. The lesson which these facts teach is that phonetic training should be provided according to the needs of individual pupils. Tests are needed which will aid teachers in determining the amount and kind of training that individual pupils need in order to render them independent in word recognition.

Needed scientific investigations in the field of phonetics have been summarized as follows:

A comprehensive study of the frequency of occurrence of all important phonetic elements and of the various combinations in which they occur, based on a word list which shows the frequency of words in common use in primary reading materials; the difficulties presented in teaching various elements; the relative merits of different elements and combinations in unlocking words; the time at which different elements and combinations of elements should be introduced; the amount of training which different types of pupils need; conditions under which training can be introduced to best advantage; the methods most effective in group instruction and with different types of individuals.

A study of present tendencies. The selection of phonetic elements upon the basis of children's needs is a problem for each community. The most common practice is to use a basic series of readers, limiting the phonetic training to the lists given in the accompanying manual. A more recent tendency²³ is to analyze the total reading experiences of the children and to discover the most needed elements as shown by their frequencies. Until more scientific analyses can be obtained, the method of consensus of opinion may be of help. The following summary of a study²⁴ showing general tendencies is presented as the most comprehensive in this field.

²³ Mabel Vogel, Emma Jaycox and Carleton W. Washburne, "A basic list of phonics for Grades I and II." *Elementary School Journal*, 23 (February, 1923), pp. 436-443.

²⁴ Mabel Lucile Ducker, *The Present Status of the Teaching of Phonics as Shown by an Analysis of Eighteen Reading Manuals*. Unpublished Master's thesis, Department of Education, University of Chicago, 1920.

The investigation consists of an analysis of eighteen well-known, widely-used reading manuals published since 1900. The analysis was made in order to determine the essential features of the phonetic training included in a majority of the manuals.

GENERAL CONCLUSIONS

I. Phonics aim principally to train in the mechanics of reading. By mechanics of reading we mean independent power over word problems gained through automatic association of sound and symbol and used for the purpose of interpreting the meaning of the printed page.

II. Only a few systems give no preliminary training before beginning formal phonic work.

III. A large majority of phonic systems postpone the time for beginning formal phonics. The time varies widely from a few days to a month, or until the children have acquired a fifty or sixty sight-word vocabulary.

IV. A large majority of phonic systems employ the analytic-synthetic method. They start with analysis of familiar words taken from sight vocabularies.

Most of the manuals do not introduce diacritical marks until the third or fourth grade is reached, where the children are taught to use the dictionary.

V. The elements common in two-thirds of the phonic systems are:

1. The single consonants:

b, f, h, l, m, s, t, hard *g, p, d, w*, hard *c, k, j, n*, and *r*, which are introduced in the primer work.

Y and *v*, introduced in primer or first-reader work.

2. The compound consonants:

sh, wh, ch, which are introduced in the primer work.

th, introduced in first-reader work.

3. The long and short vowel sounds are introduced either in primer or first-reader words.

The following common vowel combinations tend to be introduced during first-reader phonics: *ea, ee, ay, ai, oa, aw, ir, oy, ow, ou, oo*.

There is a tendency to teach vowel sounds in phonogram word endings rather than as separate phonic elements.

4. Silent letters tend to be introduced farther along in the work rather than in beginning phonic work.

5. The phonograms or monosyllabic word endings used in word series are:

A: Introduced in primer work	{	at	B: Introduced in first or second reader phonics	{	ed	ow	ear
		ill			ent	uck	est
		ack			ig	um	oy
		all			ind	ad	ump
		an			ing	air	up
		en			op	op	ide
		and			ut	ate	ite
		ell			ail	eed	one
		in			ake	ine	ust
		og			eat	ong	ight
		un			es	ook	ish
					et	ain	con
					ick	are	ace
					old	aw	

6. The suffixes:

-ing, *-er*, and *-e*, introduced in primer work; *-ed*, introduced more often in first-reader work.

SUMMARY CRITIQUE OF CERTAIN UNDESIRABLE PRACTICES IN PHONETIC TRAINING

Phonetics badly taught may do more harm than good. Much of the current work in phonics has little to commend itself and much that might well be amended. Without delay pending further experimental evidence, the committee has summarized the points of criticism upon which all members are agreed:

I. *Objections to the teaching of phonetics are based on poor teaching methods.* Failure to recognize that phonetic training is merely an aid to independent reading, rather than an end in itself, has led to much negative criticism.

II. *Overemphasis* on phonic analysis and mere word recognition encourages the development of "word-callers." This prevents the forming of correct attitudes of thoughtful appreciation. Overemphasis also leads to over-learning; one never knows when desirable standards are reached. This results in great waste of time and effort. Overemphasis frequently results from the assumption that the phonetic attack is the only method of analysis which should be used. As a result, little or no training is given in other methods of word recognition.

III. The *premature* introduction of phonetic training and the *over-systematic early work* frequently crowd out varied activities

needed for the all-round development of little children. Artificial means of holding attention must be used, as young children are not interested in the refinements of analysis. This premature emphasis leads to lack of systematic work later when the children are capable of more intensive training. The second and third grades are the period in which such training should be given.

IV. *Failure to relate phonetic training to actual reading situations* is a serious fault. Words are introduced for phonetic drill without regard to reading vocabularies.

V. *Neglect of individual needs* results in the same amount of training for all pupils. This provides, as a rule, too much for bright pupils and too little for those who learn slowly. The diagnostic and remedial attitude should be taken throughout. Each child's needs should be discovered and met. The test should be the ability of the individual pupil to use phonetics independently and successfully in attacks on unknown words which he encounters in his reading.

VI. *Standards for planning phonetic training.* Pending the settlement of controversial points by scientific investigations, certain procedures should be carried out in every school system.

1. A definite system of training in phonetics should be adopted, this system to be carefully related to a rich reading program. The system should stress the functional use of phonetic elements in reading situations. The use of phonetic training in such situations should not interfere with thought-getting. Teachers should be trained to consider this system as a source of help to be used rationally.

2. No separate work in phonetics should be done until the child has established the habit of thought-getting, has a reasonable stock of sight words, and has begun to note freely gross similarities and differences in words.

3. All early work in phonetics should be very simple; it should deal with common familiar words and with phonetic elements needed by the children.

4. All phonetic training should deal with words as units, attention to elements should be secured by covering or underlining parts of the word. Whether the stress is on the initial or the final blend will depend upon the part giving the child difficulty.

5. The phonetic elements taught should be in accordance with the best known scholarship in the field of phonetics.

6. The habits taught should lead to accurate pronunciation and enunciation as well as ready recognition.

7. Reasonable results should be required. They should be determined by the children's knowledge of a minimal number of phonetic elements and by their use of these elements in actual reading situations.

A SUGGESTED PROGRAM OF INSTRUCTION FOR DEVELOPING A MEANINGFUL VOCABULARY AND INDEPENDENCE IN WORD RECOGNITION

First Grade

I. Steps in Developing a Meaning Vocabulary

1. Wide extension of experience, with care that new words are learned which fit these experiences.

2. Opportunity for repetition of new words in connection with additional interesting experiences.

3. Special care to use early the vocabulary of the primer in connection with discussions of pictures, games, and other activities.

4. Observations by the teacher to determine vague expressions for which definite vocabulary should be substituted.

5. The elimination of difficulties as children attempt to use new words.

II. Steps in Developing Accuracy in Word Recognition

1. Teaching as sight words a preliminary list of words already in the speaking vocabulary of the children.

2. Noting the gross similarities and differences in the form and sound of the words in the preliminary list to which children give spontaneous attention.

3. Introducing the use of a book when pupils have learned to think of reading as thought-getting and have a sufficient reading vocabulary to attack simple stories with confidence.

4. Beginning work in phonetics when pupils notice freely gross similarities and differences in the form and sounds of words. This usually occurs a few weeks after books are introduced.

5. Introducing definite work in phonetics, with special attention to individual needs as early as these can be discovered. Through this work pupils should master the phonetic assignment of the grade.

6. Attending early to words with which children encounter difficulty in pronunciation and enunciation and to other inaccurate speech habits.

7. Discovering early the pupils who need to work more slowly or more rapidly than others.

III. *Suggestions for Training in the Independent Use of Habits of Recognition*

1. Train children to attack the lesson with questions in mind after looking at the pictures.

2. Limit attention at first to a single line or sentence by use of marker.

3. Learn the different ways in which children may attack each word.

4. Tell at once the word or words which you do not expect any child to get: *e.g.*, "The first word in this line is *now*. The last word in this line is *under*."

5. Train children to work across the page, getting words independently if possible, asking for help only if necessary.

6. Be sure that they get words from context or from phonetic elements when possible without interrupting the thought.

7. Secure responses by action, drawing or oral reading to see that pupils subordinate the words to the thought.

8. Occasionally emphasize a few of the more important words by having pupils find them on the page in response to thought-questions: "Find the boy's name. Find the words which tell where he is taking the cows."

9. At a separate time give needed drills—phonetic elements, words, and groups of words being selected on the basis of (a) frequency with which they are needed and (b) specific needs of individual children. No phonetic elements are to be used in isolation; they are always to be given in well-known words.

Second and Third Grades

I. *Steps in Extending a Meaning Vocabulary*

1. Wide extension of vocabulary through experiences, with care that appropriate new words are learned to fit into experience. Arousing curiosity concerning new words which convey interesting meanings. Special attention to words and idioms significant in beginning number and geography.

2. Growth in expecting words met in context to fit into context and to be words which children themselves use or hear others use.

3. Growing knowledge of when to ask for help in interpreting the meaning of a word met in context.

4. Utilizing knowledge of synonyms in clarifying text difficulties. Children give words or groups of words which mean the same as those in the text. For example, the book uses *a haughty maiden*; the child supplies *a proud girl*.

5. Exercises in classifying words under general headings to call attention to certain elements of meaning: *e.g.*, from a given list of words children arrange two lists, one containing the names of workers, the second containing the name of the work each does.

6. Informal and standard vocabulary tests to make certain that steady growth is being attained.

II. Steps in Developing Accuracy in Word Recognition

1. Care that all children know common sight words, *e.g.*, *when*, *because*, *among*. Needed drills to be given preferably with groups of words on the basis of individual needs.

2. Emphasis on training in phonetics according to a definite system, with sensible standards for measuring results. This work to be intensive and given to small groups selected on the basis of need.

3. Care that phonetics are used when needed in unlocking new words in context.

4. Exercises in arranging short lists of words alphabetically as to initial letters or in groups according to common phonetic elements.

5. Constant attention to specific words on which children need careful training in pronunciation and enunciation, and to special children whose speech habits indicate need of remedial treatment.

6. Early discovery of pupils whose classification needs to be changed in order to provide help in harmony with individual needs.

III. Suggestions for Training in the Independent Use of Habits of Recognition

1. Train children to attack the lesson with questions in mind after looking at the pictures. This arouses ideas which may recall many words to be met in the context.

2. Limit attention to a short unit, *i. e.*, a sentence or short paragraph.

3. Know the different ways in which children may attack each word.

4. Know the different values of each word in relation both to context and to pupil's habits of recognition.

5. Train children to work rapidly through the unit assigned, getting words independently if possible, asking for help only if necessary.

6. Tell promptly, even anticipating difficulty, unimportant words which pupils cannot be expected to know.

7. Help children to use knowledge of context or phonetic skills if they ask for help with words which they might work out independently.

8. Secure final responses by action, drawing or oral reading to see that pupils integrate the thought as conveyed in the assigned unit.

9. Have children point to specific words or groups of words on page in response to questions regarding meaning, *e.g.*, "Who is this man? Why is he lifting the stone?"

Fourth, Fifth, and Sixth Grades

I. *Steps in Extending a Meaning Vocabulary*

1. Rapid growth of vocabulary through actual experience and wide reading. Special attention to words and idioms significant in arithmetic, geography, and other content studies. Arousing interest in new words as suggesting new ideas.

2. Training in expecting words met in context to fit into context and to be words which children themselves use or hear others use. Inculcating good habits in asking for help with words. Gradual use of vocabulary helps and dictionaries introduced. Proper subordination of words to main ideas in context. The dictionary is to be used mainly for pronunciation, seldom for definition.

3. Continued work with synonyms, children asking for synonyms when difficult words are found in context, also giving words or groups of words which mean the same as those in the text: for example, the book uses *in expectation of conquests*; the pupil supplies *ready for victory*.

4. Attention to words and groups of words in context whose value will be increased because of intensive work done with them in composition and grammar. This should involve the application of training and should illuminate the context.

5. Exercises in classification of words as to thought relationships. This work may include lists of synonyms and synonymous expressions, and of words with common roots, prefixes, and suffixes.

6. Testing of vocabulary growth by use of both informal and standard tests.

II. *Steps in Developing Accuracy in Word Recognition*

1. Discovering remedial cases early and making specific diagnoses of their individual difficulties, followed by remedial treatment.

2. Checking habits of attack upon new words to discover pupils

whose habits are faulty, followed by substituting more economical procedures.

3. Making certain that pupils learn common sight words, like *when, because, among*, preferably in groups of words.

III. *Suggestions for Training in the Independent Use of Habits of Recognition*

1. Have pupils attack the context with a definite purpose in mind. This may suggest the meaning or pronunciation of many words. At times, the question may be asked: "What are some of the words we might expect to find in a story about Indians (or warships or harvesting)?"

2. Assign a unit short enough to suit the attention span of the reader.

3. Train pupils to be independent, yet to know quickly whether they need help with special words.

4. Keep a list of individual difficulties as a basis for remedial drills.

5. Check comprehension, giving special attention to idioms and constructions which may prove puzzling—negative expressions, like *if, but* meaning *except, only*.

6. Check comprehension, noting tendencies to overweight or underweight words.

Junior and Senior High School

I. *Steps in Extending a Meaning Vocabulary*

1. Rapid growth of vocabulary through actual experience and wide reading. Special attention to words and idioms significant in new subjects.

2. Attention to words and groups of words in context whose value will be increased because of intensive work done with them in composition, grammar, and foreign language study. This should be a carrying over of training and should illuminate the context.

3. Intensive study of carefully selected words to show wealth of English language and the values of words in expressing shades of meaning.

4. Training in making and interpreting definitions, usually depending upon synonyms and illustrative sentences.

5. Training in judging relative values of words in context, so that dictionaries and other helps may be sensibly used without overemphasis on detail.

6. Exercises in classification of words as to thought; arranging word lists under appropriate headings; making lists of synonyms

and synonymous expressions, of antonyms, of words with common roots, prefixes, and suffixes.

7. Training in knowing and using all the resources of the dictionary.

8. Testing vocabulary growth by both informal and standard tests.

II. Steps in Developing Accuracy in Word Recognition

1. Early discovery of remedial cases and specific diagnosis of their individual difficulties, followed by remedial treatment.

2. Checking habits of attack upon new words to discover pupils whose habits are faulty, followed by substituting more economical procedures.

3. Exercises in word grouping for slow readers.

III. Suggestions for Training in the Independent Use of Habits of Recognition

1. Have pupils attack the context with a definite purpose in mind. Train them to expect certain types of vocabulary in definite situations.

2. Train pupils when to ask for help, when to look for help in dictionaries, when to make note of words to look up later.

3. Train pupils to check comprehension by reference to the purposes in mind and to guard against giving words too much or too little weight.

CHAPTER V

THE RELATION OF READING TO CONTENT SUBJECTS AND OTHER SCHOOL ACTIVITIES¹

The importance of developing effective reading habits in content subjects. It is a strange though undoubted fact that pupils are often said to be "satisfactory" in reading who yet fail in certain informational subjects, such as geography and history. This condition was revealed in the study of school failures in the Cleveland Survey. The proportion of failures in reading generally is small as compared with those in other subjects. The reason is apparent. The reading done in the so-called "reading period" has been largely narrative. Yet studies² have demonstrated that the pupil who reads narrative material quite well may read very poorly when the passages tell the conditions of an arithmetic problem³ or give directions to be followed in the study of grammar. Such situations indicate that there must be a broader conception of the variety of skills and habits to be developed before pupils can be said to read adequately.

Partial solution of the problem of training pupils to read effectively lies in the cultivation of appropriate reading habits in every school subject and activity. Just as spelling and language habits must be emphasized in every subject, so essential reading habits must be cultivated in the study of literature, arithmetic, history, geography, and other content subjects. Each subject, in addition to the general habits employed in reading, requires specific skills peculiar to its purposes and subject matter.

Purpose of this chapter. It is the purpose, therefore, of this chapter to show the relationship which exists between the objectives

¹ The following persons contributed suggestive materials for this chapter of the report: Bessie Goodykuntz, Alice Brennan, Minnie Kinker, Charmian Johnson, Alice Phelps, Irene Conway, Aileen Stowell, Elizabeth Whitcomb, Sue Snow, Florence Hawkins, Flora Nettleman, Betsy Jane Welling, Isabel Smith, Harriet Hinman, June Mapes, Rosemary Featherstone, Myrtle Best, Vilma Rottenstein, Ilo Hatfield, Morrison Van Cleave, Carl Cotter, John Dambach.

² Charles H. Judd and Guy T. Buswell, *Silent Reading: A Study of Various Types*. Supplementary Educational Monographs, No. 23. Chicago: Department of Education, University of Chicago, 1922.

³ Estaline Wilson, "Specific teaching of silent reading." *Elementary School Journal*, 22 (1921), 140-146. Chicago: Department of Education, University of Chicago.

set forth in Chapter I and the various activities of the school that involve reading. This includes three steps:

1. *Calling attention to the situations arising in the regular work of the school which give occasion for learning through reading.* This is of particular importance in the primary grades, where reading is built largely upon the experiences of the pupils and upon meanings already established. All grades, however, neglect to use many situations which afford good opportunity for reading. Pupils would learn to follow the printed directions in the texts if the teachers didn't read them first. Pupils should learn to read recipes as well as to follow them. New games to be played, dresses to be cut out, radios to be built, all require reading. In these and similar situations reading should function in school as it does in life outside of school.

2. *Showing how the reading which pupils do in the study of various school subjects contributes to the development of interests and abilities.* The study of every subject requires the use not only of the essential reading habits but also of additional specific skills. These skills depend both upon the nature of the subject matter and upon the purposes for which it is read. For example, pupils comprehend geography problems and arithmetic problems by means of very different reading habits. Furthermore, geography material is read differently when one is vicariously enjoying life in the tropics than when getting ready for an examination.

Perhaps the most important of the purposes for which pupils read is that of extending experience in various fields of interest. The classroom can contribute to this purpose only as it stimulates pupils to read extensively and with enjoyment. Such reading has been designated in this report as "recreatory reading." It has as its immediate objectives vicarious experience, informational background, appreciation, enjoyment. It has as its ultimate objectives the development of permanent interests and of habits of reading which will provide for the use of leisure time. This reading, while not requiring intensive work and reflection, should nevertheless be guided. Pupils should have the impetus which comes from an interesting purpose in reading. They need not be held accountable for all they read, but there should be some sort of check which is in line with the purpose of their reading. They may prepare a dramatiza-

tion of some episode, may read or tell to the class a distinctive bit of information. Some teachers may find it necessary to give "extra credit" for extensive reading in order to foster it. In all events, such reading should be judged not alone for quantity but also, and more especially, for worth-whileness and quality.

In addition to this extensive reading, every subject requires intensive reading. Provision must be made for the understanding of simple terms which have a technical use. Again, problems must be solved, and the solution may require a search for data involving the reading and re-reading of material in order to select main ideas. Material must be organized; it must be associated with experience, and definite steps taken to remember it. Such reading is referred to in this report as "work-type reading."

While work-type reading is usually the sort thought of as study, both types are used in the study of a subject, and no lesson or series of lessons is apt to use one exclusively. Whenever reading is not merely cursory, but is done for a conscious purpose, it is study. The reason for thus labeling reading as "recreatory" or "work-type" reading is to call the attention of teachers to the place of each in the study of a subject. When teachers have failed to differentiate between materials appropriate for recreatory reading and for work-type reading, they have frequently used literary materials to give pupils training in skills necessary only to work-type material, such as finding answers to questions, selecting main points, outlining. The result is that, instead of finding enjoyment in reading, pupils dislike to read and will not engage in such activities independently. In view of these facts, many recent reading books have furnished, in addition to literary material, information from various fields, encyclopedia references, and tests. The guidance given in the reading of these various types of subject matter is usually very suggestive as to methods of study. The difficulty is, however, that these methods are not applied by the pupils when the actual study of a subject is at hand. Consequently, the skills are never used habitually.

3. *Suggesting by means of illustrative lessons how pupils may develop habits of work.* Teachers should use these lessons merely as illustrations and in turn make their own daily assignments reading situations. The chief purpose of these lessons is to show the importance of assignments which require pupils to read actively and to

react in very positive ways. The conduct of the class conferences which follow, the way in which pupils attack the work, the distribution of time, the adaptation of work to individual abilities and other details of procedure are all important aspects to be considered by the teacher when she makes an assignment.

A. READING IN THE INITIAL PERIOD

Grade I

The discussion in Chapter VI sets forth two ways in which reading relates quite definitely to the other activities of school life, namely: the use of experiences as a basis for reading lessons and the use of all opportunities to read which occur in numerous classroom activities.

In using pupils' experiences as a basis for reading material, the subject matter is organized by the pupils and teacher, written on the board, and perhaps later mimeographed. In using other situations which give occasion for reading, the teacher should make use of it in a natural way. It is possible to make many situations into reading lessons, but some are so artificial as to be grotesque—for example, writing "Good morning," "Please bring me your book," and similar expressions, when oral expression is the normal procedure.

The material which follows illustrates both relationships, namely: reading based on experience and reading motivated by needs.

Nature Study

This material was developed with a superior group of pupils (I. Q. from 109-139). Modification would be necessary for slower groups.

The teacher made each of these lessons into lesson cards, which were reviewed from time to time during the year. Some of the lessons were made into individual books by the pupils, who pasted leaves or drew pictures to accompany the typewritten sentences given out by the teacher.

Leaves

This is an oak leaf.

This is a maple leaf.

This is an elm leaf.

This is a catalpa leaf.

The Caterpillar

The caterpillar eats leaves.

It eats and eats.

Then it spins a cocoon.

It sleeps all winter.

In the spring it comes out a beautiful butterfly.

The Stars

This is the Big Dipper (children illustrate).

It has seven stars.

Four stars are in the bowl.

Three stars are in the handle.

We call it the Big Bear, too.

Other topics for nature study lessons would include birds, pets, things in the country, flowers in our garden.

Community Experiences

1. "Safety First" signs. (These are made to serve a real purpose and are posted in conspicuous places.)

Stand on the curb.

Look both ways.

We take care of ourselves.

2. Health.

Pupils match sentences with pictures. Later, the sentences are given pupils to illustrate with crayola drawings. Sometimes the list is written on the board and one is acted by a pupil for the others to guess.

I brush my teeth.

I wash my hands.

I sleep long hours.

I open my windows.

I drink milk.

Sometimes the teacher writes the first part of the sentence on the board and pupils select the best endings.

To keep well I must:

drink milk

eat more candy

stay up late

go to bed early

This sort of lesson can be made into flash-card exercises where pupils answer "yes" or "no." Whenever the teacher uses the informational material valuable in itself in reading situations, she is accomplishing a double purpose.

Other community activities include banking, excursions, fire prevention, and community chest campaigns.

School News Bulletin

Such bulletins as these may be put upon the blackboard and used for a week or made upon charts, or, better still, on cards which can not only

be preserved and re-read frequently but also be moved about in order to shift the order, thus preventing memorization.

We are going to have a party.
 We will ask Miss Smith to come.
 Miss Brown will come.
 She will bring her children.

Social Activities

"Morning Newspaper," printed on the bulletin board:

To-day is October 31.
 This is Hallowe'en.
 We have a surprise.
 It is large and round and yellow.
 It grew in the garden.
 It grew on a vine.
 What is it?
 What shall we do with it?

The pupils gave the words *pumpkin* and *Jack-o-lantern* which the teacher wrote on the board. She then used various devices for attaching meanings to the new symbols. She wrote other words on the board: *large, yellow, grew, round, garden*, and said to the various pupils: "Draw a line under *grew, garden*," etc., until all were underlined.

"Erase *yellow, round*," etc., until all were erased.

The teacher then held up a card that said:

Jack was in the _____.
 Children finished the sentence.
 He found a big, yellow _____.

Children finished the sentence. She then passed out papers on which were more sentences to be completed and on another sheet were the words needed. The pupils took the sentences and words to their seats for independent work.

School Parties

The school party affords reading experiences as well as language opportunities. First, the pupils selected the best invitation from the various ones suggested.

We want you to come to our party.
 Our party is on Tuesday. Will you come?
 We are going to have a party on Tuesday. We hope you will come.

Responses:

We will be glad to come to your party on Hallowe'en.
 Thank you. We will be glad to come to your party.

Then the preparation for the party necessitated the making of plans. The pupils asked, "What can we do?"

The suggestions were:

- We shall have a Jack-o-lantern.
- We must have some cakes.
- We shall drink milk.
- We can play games.
- We shall give our play.
- We shall sing our new song.

The next morning the bulletin board had the following announcements:⁴

- To-day we shall plan our party.
- Jack, James, Henry and Ben may make one Jack-o-lantern.
- Helen, Lucille and Mary may make a Jack-o-lantern.
- Louise and Jane may choose a game.
- Who can give our play?
- Dick may choose a song.
- Ernest and William may choose a game.

The day of the party the bulletin board announced these duties:

- We will have our party to-day.
- Sterling will pass the napkins.
- Laura will fill the cups.
- Frances will pass the cups.
- Rose will pass the cakes.

Other social activities include lunch time, birthday celebrations, games at recess.

B. PERIOD OF RAPID GROWTH IN READING

Grades II and III

Many of the plans used by first-grade teachers to make of reading a thought-getting process continue to be valuable in these grades. Too much emphasis cannot be placed upon the importance of introducing more content material. Only as pupils have rich experiences, something to do, and something real to think and talk about, can vocabularies be enlarged. There is urgent need for more books of the non-literary type, which can be read by pupils of this period. There are at present a few books in which pupils can read about how to play games, nature-study, health, numbers—topics which formerly were merely talked about. Informational readers, language books, and geography textbooks in which the material is concrete,

⁴ When directions such as these are written, it should be obvious to the pupils that it is a way of saving time. The directions should be written before the time arrives, and the fun of the party should not be discounted in advance by having to read what could easily be said.

interestingly told, and fundamentally good, are also available for use in these grades. They are valuable because they afford new types of reading experiences. The reading skills which must be begun are: finding answers to questions, following directions, selecting big points, remembering, and relating what is read to experience.

Health

The following lesson is copied from a second-grade reader. It illustrates not only the use of health lessons as reading material, but the beginning of a method of work in reading.

Reading to find out how to stop nosebleed.

How to stop nosebleed.

Have you had the nosebleed? How did you stop it?

If you will follow these rules, you can stop it quickly.

Loosen anything tight around your neck.

Wet your handkerchief or a piece of paper in cold water. Put it under your upper lip.

Do not blow your nose.

Sit down quietly with your head hanging backward. Your nose should stop bleeding soon.

How to remember

Close your eyes and try to tell in order all the things which will stop nosebleed. You could not remember them all, could you? This was because you had read the lesson only once. We do not remember things very well if we read them only once. We remember them somewhat better if we read them two or three times. If you will do the following six things, you will be able to remember what you have read:

1. Read it through carefully once.
 2. Choose the main things which you want to remember.
 3. Close your eyes and try to say these main things.
 4. Look back to see if you missed any.
 5. Try this until you can say them all.
 6. Act out the main things which you have learned.
- Use these six rules in studying the lesson about the nosebleed.

Activities

Making Gardens

The pupils who had made gardens brought a sample of something they raised in their gardens. Those who didn't have a garden brought something they would like to raise next year. The following sentences constituted the reading lesson. The blank spaces were left in order to force

pupils to read and get the thought before supplying the missing word correctly. The only oral response required was the one word which made the sentence true. The fact that the children had the articles to produce as evidence acted as check on correctness. (Such a scheme is contrasted with the practice of merely calling the words, which is no guarantee of thought-getting.)

_____ brought lettuce.
_____ brought onions.
_____ brought radishes.
_____ brought a tomato.

Who raised the carrot?

The _____ came from John's garden.

The _____ came from Mildred's garden.

Howard brought the _____.

The _____ came from the store.

Who wants to raise them next year?

Margaret brought the _____.

What can we do with it?

Caring for a Rabbit

A child brings his rabbit to school and tells how it should be cared for. The teacher writes the directions:

Feed the rabbit.
Give the rabbit fresh water.
Clean the rabbit's cage.
Let the rabbit out for play.

Children are anxious to do these things, and it is decided that the bulletin board will show each day who has been chosen:

John, feed the rabbit.
Ellen, give the rabbit fresh water.
May, clean the rabbit's cage.
George, let the rabbit out for play.

Questions arise as to which children have had turns, so records are kept:

John fed the rabbit.
Ellen gave the rabbit fresh water.
May cleaned the rabbit's cage.
George let the rabbit out to play.
Alice forgot to feed the rabbit.

The record could be supplemented with items of interest which might be put in book form.

The rabbit ran away.
He hid in the corner.
The second grade came to see our rabbit.

Nature Study

This lesson shows how riddles may be used with nature material in thoughtful silent reading exercises. Third-grade pupils can make riddles for second-grade pupils or for each other to answer, thus combining need for sentence making with need for sentence reading.

The pupils brought various kind of plants to school for identification.

I grew by the street.

I grow tall.

I have big green leaves.

You like to smell my leaves.

I have a big brown bush at my top.

Pupils have bird pictures with short descriptions on the back, such as these:

Everybody loves me.

My nest is not very tidy, but my eggs are a lovely blue.

In summer I live in the grassy meadows and fields.

I sing my own name.

The teacher writes questions on the board which the children answer by reading the various bird cards.

What bird is greedy?

What bird sings its own name?

Such work may be used as seat work by letting pupils exchange the cards. It may also be used by letting each pupil have one card which he reads in order to identify a particular bird.

Language

These "movies" were written by fourth-grade pupils for third-grade pupils to act. They were typed on cards which were passed around. Each child did as his card directed. The others guessed. The importance of terse, interesting sentences was apparent to the writers.

1. Play you are mowing the lawn. Run around the outside of the lawn first. Mow in squares until finished. With scissors clip the grass at the edge of the walk. When you have finished pretend that you are fanning yourself.
2. Play you are a newsboy. Get some drawing paper for newspapers. Walk about the room calling, "Papers! Papers!" Ask two different people to buy. The first one does not buy. The second one gives you a dime. Give him his change.
3. An auto ride. Get in on the left side. Take hold of the wheel. Get out on the right side. Crank it. Get in again on the right side.

School Excursions

After a trip to a lumber mill, where the children observed the process of making logs into lumber, the pupils talked about what they had seen on the trip. The following group composition was used as a reading lesson by foreign children, whose experiences could not be anticipated by the teacher. Using such a group, experience enabled her to utilize a vocabulary which she knew had a common background of experience and then to associate these meanings with the printed word.

We took a walk to Chiloquin mill.

We saw many *logs* in the water.

Two men *guided* the logs out of the water.

They pushed them on to a *moving stairway*.

One man at the top caught them with a big *iron hook*.

Another man put them on the *carriage*.

Some of the logs were very *large*.

Other logs were *small*.

The head *sawyer* sits on one side of the carriage.

John's father is the *head sawyer*.

He tells the other men how to *cut* the logs.

The *ratchet sette* sits on the carriage.

Fenn's brother was the *ratchet setter*.

Arithmetic

This work is carried on by individual pupils at their seats. The child places *yes* and *no* at the top of his desk. As each problem is read, it is placed under the word that answers the question. A key card may be used for checking.

1. Oranges are 50c. a dozen. Can Helen buy half a dozen with 2 dimes?
2. If there are 23 children in our room and 4 are absent, are 21 children at school?
3. If you can learn 3 spelling words in a day, can you learn 25 words in one school week?

Outside Reading

The pupils tell the teacher about the books they read. She writes down what they say and places the sheets on the reading table for all to read. Children are eager to read books in order to have their thoughts written down. They also show great interest in reading what others have said.

What Dick told me.

"'Little Dramas' has good stories to act, I wish we could act out the story about the timid hare and the lion. I should like to be the lion. It would be fun to roar."

What Ruth told me.

"I like 'Storyland in Play.' The story about the foolish turtle is interesting. The turtle was having a nice ride with the geese. He should not have talked."

C. PERIOD OF ENRICHED EXPERIENCE

Grades IV, V, and VI

Increasingly diversified reading habits. The habits and skills which were begun in the first, second, and third grades take on new significance as the curriculum broadens and pupils begin to read an increasingly large number of textbook assignments. In the preparation of such material the problem of teaching pupils to read is largely one of teaching them to study.

As was stated in the introduction to this chapter, the teacher must first of all take into account the purposes for which material is to be read and determine the kinds of reading habits which will be most important in the study of the assignment. The lessons suggested are not practice exercises. They can be of value only as they suggest how teachers in the regular work of the day may: (a) make assignments which will necessitate good reading habits and direct the pupils in utilizing those habits, (b) check in some way the results of the reading to determine to what extent appropriate habits are being developed, and (c) provide for gradual development of independent methods of work on the part of the pupil.

Geography and Reading

Purposes of reading in geography. The study of geography involves both recreatory and work-type reading. No lesson or series of lessons should employ one to the absolute exclusion of the other. The teacher who fails to recognize that both have a distinct place does one of two things; she either emphasizes recreatory reading to such an extent that the geography becomes a haphazard subject from which the pupil gets neither accurate information nor good habits of work, or she confines the study of geography so exclusively to work-type reading that it becomes a routine recital of dry facts.

One reads geography to gain experience, to secure through reading what one would get directly were one to visit the section of the world described in a passage. There are tourists who miss the scenery because they are too busy reading the guide books. Geography may in the same way miss its main purpose if pupils get no experiences from its study but experiences in answering questions, selecting main points, outlining, and map study.

First of all, then, there must be provided a wealth of material which can be read for pleasure and for a background of information. Not only must all possible material which is simple be supplied, but material varying in difficulty to meet individual needs should be provided. In the use of such material pupils read extensively. Experience teaches that interpretation of such material is most effective when interest is keen because of some previous contact or when some other sort of stimulation is provided.

The work, or study, type of reading in the field of geography involves practically all the general reading skills and habits necessary to intensive reading. Pupils must analyze what they read to find answers to questions, to secure facts relating to larger problems, and to select the main points in a paragraph of factual material. Pupils must associate ideas in right relation and they must associate what is read with previous experience. They must be able to grasp the author's organization and be able to reorganize what they read. They must be able to form accurate judgments in the light of geographical principles and they must be able to retain what is read, both for immediate and for future use.

Whenever it becomes apparent to the teacher that the reading in geography is unsatisfactory because of the lack of such general abilities as those just mentioned, the teacher should utilize the reading period for drill in the use of these skills.

In addition to those general abilities, the reading and study of geographical materials presents a number of reading situations involving special habits which do not occur in other subjects. These include reading of maps, charts, graphs, statistical tables; reading of pictures and slides; reading of railroad folders; understanding of the vocabulary peculiar to geography; relating facts to principles; remembering locations apart from logical associations. Drill in such habits and skills peculiar to geography should be emphasized in the geography classes.

There follow some illustrations of the guiding of reading in connection with work in geography.

Extensive Reading in Preparation for a "Round-Up"

The pupils in a fourth grade in the middle west were studying the western plains as a part of their regional study of the world. A boy in the class, who had recently moved into the city from a Montana ranch,

told stories of the life there, which stimulated great interest in cowboys and western ranches. The class decided to have a "geography round-up" in which various groups could report what they were able to find concerning special topics. The subjects suggested were: Early History of the Plains; Description of a Ranch; How a Cowboy Dresses; A Cowboy's Amusements; The Round-up; Cowboys in Other Lands; Theodore Roosevelt as a Cowboy; Chicago Stock Yards.

Each group selected a chairman and made a list of questions as a guide in reading. These questions were revised after some reading, especially when it was discovered that the books did not always agree with what the boy from Montana had told. This necessitated extensive reading, also comparison of dates of publication and the reliability of statements. The questions served as an outline from which the pupils made their reports.

An additional stimulus to careful reading and searching for pictures was occasioned by the appearance in the city of the motion picture entitled "The Covered Wagon."

The following books were used as references:

Wister, *The Virginian*
 Hough, *Story of the Cowboy*
 Richards, *A Tenderfoot Bride*
 Grinnell, Jack, *the Young Ranchman*
 Grinnell, Jack, *the Young Cowboy*
 Hagedorn, *A Boy's Life of Roosevelt*
 Hooker, *Story of an Indian Pony*
 Wheeler, Rolt, *Boys' Book of Cowboys*
 Roosevelt, *Ranch Life and Hunting Trail*
 Allan, *Allan's Industrial Reader*
 Kellar, *Commercial and Industrial Geography*
 Doubleday, *Cattle Ranch to College*
 Roosevelt, *Stories of the Great West*
 Sabin, *Bar-B Boys*
 Carpenter, *Carpenter's North America*

The reading techniques involved were:

1. Extensive reading in order to find answers to questions formulated in large measure by pupils themselves. (Pupils should learn to guide their own reading by formulating questions in advance and again to re-formulate questions after rather extensive reading.)
2. Intensive careful reading to settle questions where there was disagreement.
3. Oral reading as a means of contributing to class discussion or enjoyment.

Extensive Reading to Prepare Assembly Program on Mardi Gras
 Another illustration of extensive reading, very largely on the rec-

reatory level, is the reading done by a fifth-grade class which became especially interested in New Orleans. This interest grew out of the fact that a member of the class was going there to attend the Mardi Gras.

After a cursory reading of everything they could find, the class decided that the material was interesting enough to warrant their giving an assembly program on the subject. Using material for such purposes necessitates, first of all, the organization of what is to be presented.

Organization of ideas as guide to further reading. The method of organization used was for the class to suggest all the questions relative to the subject which might prove of interest to the pupils who would constitute the assembly audience. Examples follow:

1. Why did the people begin the Mardi Gras celebration?
2. What else is of interest in New Orleans?
3. What do the people do at the Mardi Gras?
4. What is the country like around New Orleans?
5. What do the people do?
6. How does cotton grow?
7. What is life on a plantation like?
8. What kind of clothes will Margaret need to wear in New Orleans at this season?

After the list was completed, the teacher called attention to the fact that many questions could be combined and that there should be some attention to sequence in order to make an interesting set of talks. The pupils then reorganized the list and arranged the following list of topics:

1. Getting to New Orleans from Detroit.
2. Historic New Orleans.
3. Places of Interest in Modern New Orleans.
4. Industries of New Orleans.
5. Plantation Life.
6. The Mardi Gras.

The pupils worked in groups and competed in making each topic as interesting as possible. Before they set to work, the teacher raised this question: "How are you going about the preparation of these reports?"

The pupils suggested the following procedure, which is typical of the sort of report based upon extensive cursory reading.

1. Use the indexes of the books to find references.
2. Read the references and choose the part of the material which relates to the topic.
3. Select key words or phrases which will suggest the most interesting things upon which to report. For example, in reading about plantations, the notes might be "one-horse plantation," "negro quarters," "picking cotton," etc.

4. Look over the notes and arrange them in the best possible order. If there are several pupils, the responsibility for reporting should be carefully divided so that there will be no tiresome repetition.

With these directions in mind, the pupils set to work. When the assembly program was presented, there were pictures secured from the Chamber of Commerce, anecdotes from history, negro dances, and melodies sung to banjo accompaniment by pupils in costume. The reading had functioned.

The list of readings included:

Brigham and McFarland, *Essentials of Geography*
J. Russell Smith, *Human Geography*
McMurry and Parkins, *Elementary Geography*
Carpenter, *North America*
Gordy, *Studies of Later American History*
Brooks, *True Life of Abraham Lincoln*
Lamprey, *Days of Commanders*
Markham, *Real America in Romance*
Burton, *A Story of United States*

Reference books:

World Book
Various encyclopedias—
Book of Knowledge
Southworth and Kramer, *Great Cities of the United States*

Intensive Reading to Explain Certain Industrial Conditions

One of the outcomes of extensive reading in a subject such as geography should be the discovery of problems for additional intensive reading and study. If such problems do not suggest themselves to the pupil, the teacher may propose them as a challenge to more intensive reading and reflection.

Following the study of New Orleans just reported, the teacher raised the problem which is given in the lesson that follows. The study as suggested is typical of most problem-solving lessons. It required the use of all fundamental objectives—location of data, selection, comprehension, evaluation of data, organization of material necessary for retention. The assignment illustrates one way of attacking a large problem by resolving it into its important factors. This involves leading the pupils to realize that the larger problem is dependent upon several smaller problems and having the pupils help in the determination of the lesser problems. A thorough discussion of the assignment should precede the study, so that

pupils may realize what their study job is. Gradually, as a technique of independent study, pupils must learn to break big problems up into smaller ones for themselves.

Teacher: "You have been interested in the raising of cotton in the southern states. However, New England, which raises no cotton at all, ranks first in the manufacture of cotton cloth. Why is this?"

"What are the questions which you would need to answer before you could really account for this fact?" Discussions of the factors which enter into the situation led to four questions. The teacher wrote the major problem on the board, together with the minor problems.

Problems: How can the New England States, though they raise no cotton, rank first in the manufacture of cotton?

1. Where does New England get its raw cotton?
2. What advantages for manufacturing does New England have?
3. How did cotton manufacture start in this country? What effect did this have on New England?
4. What places lead in cotton manufacture? From a study of the map try to discover why.

She then proposed that the pupils work out the first question together, in order that each might learn how accurately he was able to study such an assignment.

Teacher: "How will you know where to begin to read?"

Pupils: "Find New England—manufacturing; find cotton—raw."

Teacher: "Find either topic. As soon as you have a statement which you think answers Question 1, you may stand."

Time was given for all pupils to find the answer. Meanwhile, the teacher discovered the pupils who were slow in the use of an index and gave assistance. She also found pupils who could not determine the relevance of statements.

Teacher: "In the same way you are to find the answers to the remaining questions. Work as fast as you can.⁵ When you have finished, look at each question and think how you are going to answer it when we have a class conference. Re-read if necessary."

Such fore-exercises precede the study of an assignment and pupils are made conscious of certain factors in study. It is often worth while in such exercises to set pupils at work on a problem and at the end of two minutes to ask them to write down the question to which they are trying to find answers. Pupils should learn the im-

⁵ While no time limit should be set which would lead to careless reading, all pupils should learn to work at maximal speed. If some sort of an informal test—true-false, completion or one-word test—is substituted for oral discussion, the pupils become more accurate in this sort of intensive reading.

portance of keeping the problem in the foreground of attention when reading intensively.

Intensive Reading with Responsibility for Remembering

In connection with the intensive sort of reading just suggested, pupils should learn to be critical of their successes and failures and to remember a reasonable amount of material read. The teacher may use some such plan as follows to reveal to pupils their present accomplishment. The aggressive attitude which results from finding oneself unable to average up to a task stimulates better reading of subsequent assignments.

To the pupil: Keller and Bishop, *Industrial and Commercial Geography*, page 81. From a single reading of this paragraph about the making of ready-made clothing by the sweating system, you should be able to tell why ready-made clothing is usually manufactured in large cities, what the bad effects of the sweating system are, and why the immigrants will accept low wages. Keep in mind every point which bears on any one of these questions. Study questions carefully before the reading begins. As soon as you have finished reading, close your book and fill out this outline.

1. Why is ready-made clothing usually manufactured in large cities?
 - (a)
 - (b)
2. What are the bad effects of the sweating system?
 - (a)
 - (b)
 - (c)
3. Why will immigrants accept low wages?
 - (a)
 - (b)
 - (c)

Arithmetic and Reading

Skills involved in reading arithmetic. As in the case of geography, arithmetic makes use of the general reading skills previously listed. Pupils must select main points, get the conditions of a problem clearly in mind, relate facts to principles. The techniques involved, however, in getting the conditions of an arithmetic problem in mind differ decidedly from those which enable the pupil to comprehend a geography problem. The failure of pupils to read their problems carefully has long been proclaimed by teachers as an outstanding

cause of failure to solve them correctly. On the other hand, pupils who have been trained in the specific reading skills involved in reading problems have shown increased ability in problem solving.⁶

What are the reading skills necessary to the effective understanding of a problem? School practice usually requires pupils to "read the problem" perfunctorily. This reading takes place after the problem has been solved, preliminary to the "explanation of the problem." No wonder that the routine sort of oral reading which thus takes place has small relation to real comprehension. The crucial reading is the silent reading which precedes the solving. If this reading is well done, the problem situation should be remembered, just as important facts in any other material are remembered, long enough to enable pupils to explain the conditions of the problem intelligently without the customary oral reading. Again, the practice of having pupils state "what the problem tells and what the problem asks" results in a mechanical fitting of words into a formula which seldom gives pupils much sense of the real situation.

It is obvious from the character of the subject that the reading done in arithmetic is for the most part on the work level and of two general types:

1. *The careful reading of informational material which is similar to the kind of reading done in civics.* This type is most important in Grades VII and VIII, where the business applications of arithmetic begin, *e. g.*, banking, insurance, taxes, budget making. Such topics involve more reading than problem solving.

2. *The intelligent understanding of the conditions of a problem.* If the pupils are to comprehend problems, such specific skills as the following are necessary:

- (a) The vocabulary⁷ peculiar to arithmetic must be understood: such terms as average, total, at the rate of, etc.

- (b) The problem situation must be comprehended. The problem must tell a story, just as history tells a story, so that the

⁶ *Remedial Work in Arithmetic.* Ohio Research Bulletin, p. 347. Columbus, Ohio: Ohio State University, December, 1923.

Worth J. Osborne, *Corrective Arithmetic.* Pp. 56, 97, 148. Houghton Mifflin Co., 1924.

⁷ Walter S. Monroe, *Measuring the Results of Teaching.* Pp. 163-164. Houghton Mifflin Co., 1918.

way in which numbers and their relationship are to be used becomes vivid.

(c) Main ideas must be selected, regardless of quantitative elements.

(d) Judgments must be formed both as to correctness of processes used and validity of answers.

The lessons, portions of which follow, may be used as drill exercises to increase ability in these specific skills. These exercises may form a part of the work during the regular reading period. As in the case of other subjects, when the teacher finds certain reading skills to be inadequate, she may spend the reading period to aid in their development. Such exercises may also occupy a part of the arithmetic period, especially when similar exercises are made using the material of the lesson at hand.

All of the exercises which follow may be used somewhat similarly. The first step is the selection of the pupils who need the special reading drills. Such a grouping should probably be determined by the use of some standardized problem test. Teachers usually know the pupils who do abstract work satisfactorily, but who are unable to solve problems.

Having determined the group who need drill, the others should be allowed to attack problems independently. It frequently happens that a few weeks' attention to reading on the part of the whole class will reduce the drill group to a small number. For these pupils there should be mimeographed sheets prepared similar to these exercises or the tests may be written on the board. Responses should be written, so that each member of the group can be rigorously tested as to his ability to interpret each problem.

Keeping records of scores made from time to time increases interest, just as in abstract drill exercises.

Expressing Ideas in Different Ways to Show That Certain Technical Phrases are Understood

To the pupil: Rewrite each of the following sentences. Do not use the words underlined, but use some other words that will show that you know what the underlined words mean.

For example, the sentence, "An eight-cent bag of marbles *contained* 128," might be rewritten this way: "There were 128 marbles in a bag

of marbles that cost 8 cents"; or "A bag of marbles that cost 8 cents had in it 128 marbles."

1. I can buy pencils *at the rate* of 2 for 5 cents.
2. How much *remains*?
3. After buying a house, a man had to spend \$300 *for repairs*.
4. George walks at the rate of 3 miles *per hour*.
5. Two boys *agreed* to cut a lawn.
6. Henry buys oranges at 4 cents *apiece*.

Providing for Comprehension of the Situation in a Problem

To the pupil: The following problems tell the story of a family who took an automobile trip. You are to read the problems and to answer the questions printed below, but you are not to work any of the problems. You may read them as often as is necessary to answer the questions. Work as rapidly as you can. Number your answers just as the questions are numbered.

1. The Brown family took a two-weeks' trip in their automobile. They went 975.6 miles in all. They did not ride on Sundays. How far did they go per day on the days that they did ride?

2. It cost \$21.32 for gasoline, \$2.80 for oil, and \$4.75 for repairs. Mr. Brown estimates the wear and tear on automobile and tires at $3\frac{1}{4}$ cents per mile. Using this estimate, what was the total cost of running the car for the trip?

3. They spent twelve nights and had twelve breakfasts at farm houses or small hotels. Twice they paid \$1.75 for lodging and breakfast for the family. Five times they paid \$2.00. Four times they paid \$2.50. Once they paid \$3.50. What was the total cost of lodging and breakfast?

1. How many days did they need to buy food?

2. Why could you not find what the cost was for each member of the Brown family?

Reading to get main ideas in a problem. The eye-movements of adult readers show that in reading problems the effective reader is one who reads first for the situation, then goes back for the quantitative elements.³ Pupils should be able to read and *remember* the story part of the problem and certainly pupils who explain a problem worked on the blackboard should be able to state the conditions of the problem clearly without reference to the text. They should also learn to think of the process apart from the figures involved.

³ P. W. Terry, *How Numerals Are Read*. Supplementary Educational Monograph, No. 18, Pp. 8-11. Chicago: Department of Education, University of Chicago, June, 1922.

(a) To the pupil: Read the problems in your arithmetic and then, without referring to your text, be ready to tell the situation in the problem, thus:

1. In 1908-09 the total amount of cane sugar produced by the world was 7,324,853 T.; of this the United States produced 1,045,000 T. What percentage did the United States produce?

Tell in this way:

In a certain year all the cane sugar produced in the world was so many tons. Of this whole amount the United States produced so many tons. We are to find what percentage was produced by the United States.

2. In a recent year the output from the coal mines of Illinois was 41,490,104 tons. How many carloads would this make, allowing 40,000 pounds to the load?

In a recent year we are told that the Illinois coal mines produced a certain number of tons of coal. How many carloads would this be if we allow so many pounds to the load?

(b) To the pupil: In a simple statement tell how you would solve if you were told the figures:

1. If you know how much money you have in your pocket and how much you spent while down town, how can you find how much you had when you left home?

I would add what I had in my pocket to the amount I spent down town.

2. If you know how many desks were bought for your room and how much each desk cost, how can you find out how much all the desks cost?

3. A boy had a certain number of golf balls. He sold them at so much apiece and spent the money for marble shooters. How can you find the number of shooters he could buy?

4. If you know the distance a train has gone and the number of hours it took to go that distance, how do you find its average speed?

(c) To the pupil: Can you understand your arithmetic problems when you read them? If so, you can do these exercises correctly. After each problem is a list of things which might be done. You are to show that you understand by filling in the blanks correctly, then drawing a line under the word or words which tell *the right thing to do*.

1. A man picked 28 quarts of cherries. He used some of them for canning and sold the rest at 15 cents a quart. If he received \$1.50 for what he sold, how many quarts were canned?

Multiply _____ by _____

Divide 150 by 15

Then Add Subtract Multiply Divide

2. The manager of a service station has a tank containing 500 gallons of gasoline. If he sells to 55 customers an average of 6 gallons each, how much will he have left at the end of the day?

Multiply _____ by _____

Divide _____ by _____

Then Add Subtract Multiply Divide

*Reading in Order to Judge Whether or Not an Answer Is Absurd:
Estimating Amounts*

To the pupil: In the following list of problems and answers some of the answers given are reasonable, others are unreasonable. Write "yes" after the answers which you think are just about correct and "no" after those which are very incorrect.

1. Twenty-three children to our class, but only 19 are present.
How many children are absent?
Ans. 42 children.
2. James has 28 marbles. He gives half of them to Charles. How many has he left?
Ans. 56 marbles.
3. We learn 2 words a day in our class. How many do we learn in 8 days?
Ans. 16 words.
4. If you can get 3 gingerbread dogs for 5 cents, how many can you get for 10 cents?
Ans. 18 gingerbread dogs.
5. A boy owned 3 kites, each of them having 150 feet of string. How many feet of string had he?
Ans. 450 feet.

Industrial Arts and Reading

Workers in industrial fields who want to be intelligent about their occupations read widely. Electrical workers have their magazines; all trades have their journals; motion picture magazines have news which is of specialized nature. While it is not the function of the elementary school to provide for special vocations or vocational reading, it is important to give pupils reading experience in situations which are similar to the situations in life which will require reading.

An important purpose for which one reads in this field is the following of directions. Many situations in which pupils should be learning "to read and do" are inadvisably used by teachers as "telling" situations. To follow directions given orally and to follow printed directions are different matters. It should be noted by teachers that textbooks are constantly giving directions which pupils are to follow in the preparation of their work. The reading of directions carefully and accurately is a reading skill very frequently de-

manded in life. Teachers, in their anxiety to have the directions followed correctly, usually read and explain them to the pupils. Pupils should learn to read directions independently. This part of the study is as important as doing what the directions say.

These lessons illustrate the use that may be made of directions in this field. These paragraphs were given to the pupils of a fourth-grade class who were interested in reading them chiefly because they knew they were to try the same thing.

Reading in Order to Do What Other Pupils Have Done⁹

To the pupils: The children of another school who have done this piece of work have written this explanation for you. You can read their report, find out how, and make butter too.

"We took a big bowl. We put sour cream in it. Cream is the top of milk. Milk grows sour when it is no longer fresh. We took an egg-beater. We beat the sour cream with an egg-beater. Soon it looked like whipped cream. Then we saw little lumps of yellow fat on the edges. More lumps appeared. There were many, many lumps. We had made butter. We washed it in clean water. We added salt. We gave a party to Grade 2. We ate the butter on pieces of bread."

To the pupils: The children of another sixth grade have worded this paragraph to tell you how they made clay plates. Read carefully and when you can fill out the blanks in the test below showing you understand what you read, you may make some clay plates.

"We looked at a plate. We saw that it was flat and shiny. We found out from the encyclopedia that dishes are made of clay. We took some wet gray clay. We made it smooth. We picked out all the small stones and sticks. We made a clay ball. We rolled the ball flat on the table with a bottle. It looked like a pie crust. We put sand on the table to keep it from sticking to the table. We lifted the clay crust. We put it on a plate. We patted it flat and cut off the edges of the clay. We put it on a shelf to dry. The next day we found a dry clay plate. We put lines and shapes on it with "underglaze" paint. This paint looked like water-color paint but we found that it could resist heat. We put the plate in a very hot oven called a kiln. It stayed there twelve hours. When it came out, it was pale orange color, and would not break so easily. We next put 'glaze' on the plate. Glaze is a thin coat of glass. It looked like colored cream. We put the plate back in the kiln. When it came out, it was shiny like our dinner plates. Glaze protects the plates and makes them easy to wash. We each made a plate. Some of them were broken by the heat in the kiln. The others we use for our class parties. One day we went to the museum and saw many plates made long ago. We drew pictures of some of the plates that we liked best."

⁹ The recording of experiences by one class so that another class may try the same experiment makes this both an English composition situation and a reading situation.

Fold here

.....

To make plates we took some _____. We made a _____ which we _____ flat with a _____. We molded the wet clay on a _____. Next day we had a dry clay plate. We put lines and shapes on it with _____. We put the plate in a _____, called a _____. It stayed there _____. It came out _____ color. We next put _____ on the plate. Then we put it _____ _____. When it came out it was _____ like our dinner plates.

Reading and Physical Education

Reading in order to find out how to do something in which one is really interested constitutes a large field of careful study. Pupils are stimulated to careful reading when a new game or new rules of a favorite game are at stake.

Reading to learn a new game. The following material was mimeographed and sent to the boys with the instruction that they were to study the game and be ready to play without further instruction when the physical director came to the school.

The surprise came when, upon arrival, the director gave a quick true-false test covering points of the game and chose the first team according to the scores made thereon.

Field Ball

Equipment

1. Soccer or basketball.
2. Field same as a soccer or football field. At each end there is a striking circle, a semi-circle with a radius of 15 yards called "scoring circle." Teams are of eleven players arranged in the same formation as in soccer or hockey, viz., 5 forwards (1 center R and L inside and R and L wing), 3 half-backs (L and R and Center), 2 full-backs (L and R) and a goal keeper.

The Game

Starts with a "free throw" at center of field with the team of the thrower lined up behind him. It starts the same way after a goal is made, after a resting period, and after a foul, except in that case at the spot where the foul was made. A player having a free throw may go back and take a running start. When the attackers send the ball over the end line, the goal keeper is given a free throw or kick.

A ball thrown through the goal from a position outside the scoring circle counts two points; when thrown from a point within the circle, it counts one point. A ball so thrown that it passes over the cross bar scores one point for the defending side.

When the defenders send the ball over the end line, the attacking side

has a free throw from the nearest corner of the field, the defenders being lined up outside the end line of the field.

Field ball is played in ten-minute quarters, with five-minute rest periods.

Rules

Player may advance with the ball with one dribble; guarding can be done only in the scoring circle (the game is one of interception), and then in a plane at right angles to the ground. Outside the circle, the guards must stay 15 feet away.

The ball must be thrown 15 feet or over when thrown forward; it may be passed backward any distance.

Hints to Coaches

1. Get men to play their positions and not rush the ball.
2. Have forwards cross and be fed by their half-backs.
3. Teach center to pass out to inside forwards and insides to pass out to the wings. The ball zigzagging forward but men running in a straight line.
4. Teach half-backs to intercept ball by guarding their opponents.
5. Rough playing is impossible if the rules are enforced.

After you have studied the above, test yourselves with these questions. Unless you can answer all correctly you are not ready to play the game.

1. How many men make up the team?
2. How should the ball progress down the field?
3. What are the rules for handling the ball?
4. What counts a score?
5. What happens when a foul is called?
6. In what way is this game like soccer?
7. What happens if the defender sends the ball over the end line?

The foregoing is an illustration of attaching a strong motive to testing oneself to ascertain the extent of comprehension. Pupils should come to realize that testing one's comprehension similarly in regular subjects has a value in the same way when the retention of material is important.

D. PERIOD OF INDEPENDENT APPLICATION OF READING ABILITY Grades VII, VIII, and IX

Reading as a study medium. The study-reading habits of these grades are distinguished from those of earlier grades by the extent to which pupils are able not only to attack more difficult materials and assignments extending over a longer period of time, but also to choose appropriate methods of attack, to outline consciously what their plan of work will be, and to become aware of the values of the various reading techniques which previously have been directed by the teacher. When this stage is reached, reading has become independent study.

While reading is not the only method by which pupils study, it is the predominant one and is prerequisite to most other types. The problem of study is one of impelling assignments on the part of the teacher and the application of right reading habits on the part of the pupils. In no other way may pupils attain the emotional attitude which makes of reading a personal and stimulating experience and thereby an abiding and permanent interest.

Reading and History

Purposes of reading in history. Effective reading habits enable children who study history to live vicariously the lives of historic characters. They may come to know not only the motives and achievements of those who have made history, but also the environment in which each in his own time has lived and labored. The experience of children is enriched not only by their coming to know "who's who" of each generation, but also by appropriating to themselves the historic setting of each character in his own age. Thus may be acquired the necessary perspective with which to view intelligently present-day life, whence it came, and whither it is tending.

This committee has attempted to make emphatic the necessity of providing pupils opportunity to read extensively. History assignments may be effectively adapted to realize this objective. History teachers should ever keep in the foreground that their business is to lead children to understand their heritage in order that they may as adults safeguard it and improve it for future generations. To make future democracy safe for the world children now in school must live the life of the human race through the ages, confront its difficulties, and overcome its obstacles. They may never be equipped to discharge the obligation of citizenship if history in school means for them merely the routine reading and reciting from a single textbook.

Broad Reading for Enriched Experience

The assignment described below was made to an eighth-grade class as part of a review of the history of the United States. The history had been studied according to traditional textbook methods. The review introduced a study of the United States and its history from the point of view of the states. The assignment might be

divided among various groups of pupils, who would spend in preparation, not only their history study period, but their literature time as well, and in addition read at home. It is typical of the sort of assignment which might stimulate pupils to read extensively for a period of several days, searching libraries for material, eagerly alert to bring to the class conference a real contribution in the way of new and interesting facts and stories not discovered by other readers. Such purposeful reading is more of the recreatory than of the work type.

Before the pupils set to work on such an assignment it is well for the teacher to have them suggest the method of work best suited to the making of interesting reports; also, the sources from which to get information about best books to read—books in room library, bibliographies of collateral reading in textbooks and course of study, classified book lists such as appear in various books, and librarians in school and city libraries. (See pp. 110-112 for an illustration.)

To the pupils: Perhaps if we all knew more about the states which are not our own, there would be less of the boasting which many people are inclined to do about the state in which they live. This assignment tells you in advance some of the "high spots" in the history of certain of the western states. In reading, try to find out the significance of these items. In reading look for two things: (a) striking historical events, (b) famous sons of which the state is proud. (The group having the least reading might report first so that groups with states having more material available could be reading a week or more on their topics. The reports of states should not only interest the others in the state for the time being but should also incite them to read the books.)

California: Gold Rush; "forty-niners," "vigilantes," "pony express," The "General Sherman."

Colorado: Centennial States; Pike's Peak Country; Pueblos; "ghost towns."

Kansas: Bleeding Kansas; John Brown; "Immigration, a political rather than a personal matter."

Oklahoma: "Boomers;" L and Rush; "No Man's Land;" the mistletoe; the "Grandfather Clause."

Oregon: Sacajawea's "Bird Woman;" Astoria. Great Immigration (1843); "Fifty-four Forty or Fight;" the "web-footed state."

Texas: The "Lone Star State." Remember the "Alamo." In what connection did the people of the United States say that "Texas was but a misspelling of 'taxes?'" "Jefferson;" last fight in the War of Secession, May 13, 1865.

Utah: The Mormons; Alley of Death.

Some outside readings in connection with a study of the states.

Otis, *Martha of California*
 McNeil, *Boys' Forty-Niners*
 Fox, *Carlota (California Before the Conquest)*
 Hough, *The Covered Wagon*
 Hart, *The Luck of Roaring Camp*
 Otis, *Seth of Colorado*
 Shinn, *Story of the Mine*
 Brooks, *Boy Emigrants*
 Brooks, *Boy Settlers*
 Chamberlain, *John Brown*
 Catherwood, *Heroes of the Middle West*
 Irving, *Capt. Bonneville*
 Parkman, *The Oregon Trail*
 Hough, *Fifty-four Forty or Fight*
 Otis, *Antonie of Oregon*
 Otis, *Philip of Texas*
 Abbott, *David Crockett and Early Texan History*
 Abbott, *Kit Carson, the Pioneer of the Far West*
 Elliott, *Sam Houston*
 Munroe, *With Crockett and Bowie*
 Davis, *Under Six Flags*
 Whittier, *Angels of Buena Vista*
 Lowell, *Biglow Papers*
 Tourgee, *Button's Inn*
 Altsheler, *Herald of the West*
 Adams, *Log of a Cowboy*
 Wister, *The Virginian*
 Eggleston, *The Circuit Rider*
 Hough, *North of '36*
 Dickens, *Martin Chuzzlewit (?)*
 Dana, *Two Years Before the Mast*
 Laut, *Story of the Trapper*
 Thwaites, *Rocky Mountain Explorations*
 White, *Gold*

Intensive Reading Relative to a Large Problem

If pupils in earlier grades have learned to read carefully when the problem is one of finding answers to questions in paragraphs and to larger questions involving the use of various reference books, they are now ready to attack a problem requiring interest and attention sustained over a fairly long period of time.

The following lesson illustrates the assignment for an eighth- or ninth-grade class which will stimulate pupils to study for several days on one problem. Following a week's reading, a class period of discussion will give opportunity for pupils to exchange ideas and for the teacher to clarify their ideas.

Teacher: "President Harding, in an address made at Vancouver, July, 1923, pointed to the century-old friendship between Great Britain

and the United States as proof that public will, rather than public force, is the key to international peace. When the time for discussion arrives, be ready to tell how each of the instances here listed is an illustration of what President Harding said."

1. Rush-Bagot Agreement (1817) "Our protection is our fraternity, our armor is our faith."
2. The Caroline Affair (1837).
3. "The Aroostock War" (1883).
4. Webster-Ashburton Treaty (1842).
5. "Fifty-four Forty or Fight (1844).
6. Clayton-Bulwer Treaty (1850).
7. The Alabama Claims. ("This was the most important case that had ever been submitted to arbitration and its successful adjustment encouraged the hope that the two great branches of the English-speaking peoples would never again have to resort to war.")
8. The Behring Sea Controversy (1893).
9. The Venezuela Affair (1895).
10. Attitude of British Government during the Spanish-American War (1898).
11. Hay-Pauncefote Treaty.
12. Lord Alverstone and the Alaskan Boundary Dispute. ("It was the good fortune of the two countries that if at any moment rashness or vehemence was found on one side, it never happened to be met by the like quality on the other.")

"The moral of the story of Anglo-American relations," Lord Bryce says, "is that peace can always be kept, whatever be the grounds of controversy, between peoples that wish to keep it."

The teacher asked: "In preparing this assignment, what are you going to do?" The pupils suggested these steps.

1. Be sure we understand what the assignment means. (This necessitates some explanations of "public will" and "public force," and the use of the word "key" in this connection.)

2. Use index to find the references in our own text and several others. (Note: If pupils are inexperienced in use of index, one study period might well be spent in letting groups of pupils merely locate the page reference under each topic, preparatory to the study.)

3. Read what is told of each topic and then think how it is an illustration of President Harding's statement. Look for any exceptions.

4. Take such notes and page references as will enable us to recall the episode if necessary. Look over the assignment and think to ourselves how we will discuss each at the time of a class conference.

Reading to Determine Cause and Effect

An important skill in reading is evaluating the material read and forming judgments about it—in other words, reacting actively,

not merely remembering. In order that pupils may participate to the fullest extent, it is often valuable to substitute for oral discussion such a test as the following, or to give such a test as the assignment. Only where pupils have responsibility for all answers do they have full opportunity to develop careful reading and independence in study. Answers, therefore, should be written. Responses must, of course, be discussed later, so that the pupils may check their comprehension. The teacher may prepare a key for the checking. Discussion in such tests as this has, however, the social advantage of interchange of ideas. Repetition of the same test from time to time provides opportunity to measure the extent to which discussion has cleared up difficulties, gives the teacher an opportunity to give the pupils who need it special attention, and shows the pupils themselves how well they are remembering what is discussed.

Pupils soon come to realize the value of such a procedure and ask the teacher to give them an opportunity to try the test again, or better still, test themselves during their independent study period. One class has its slogan: "Test yourself before you are tested." This emphasizes the importance of attitude in work-type reading. "How to study" is of small value unless it is coupled with "want to study."

To the pupil: In the blank lines below write a short sentence which will tell the best reason you know why each of the statements is true:

1. In America the Industrial Revolution did not work any great hardship on the handworker.

Statement

2. Free public education is an American ideal.

Statement

3. Slavery prevented the South from becoming commercially prosperous.

Statement

4. The factory system developed a laboring class as distinct from a class of employers.

Statement

5. "The reaper is to the North what slavery is to the South."

Statement

6. "No state can lawfully get out of the Union."—Lincoln.

Statement

7. The people can be trusted to defend a government of which they form a part.

Statement

Reading and Remembering

Such a test as the following may advantageously follow the reading of various biographies or may be used as an assignment to be studied with books open. Pupils can make these tests. Eagerness to test some classmate is always a motive for careful reading. "Teachers" always study harder than "students." A first-grade teacher who permits the pupils to ask her the questions on the lesson encourages very careful reading. Eighth-grade history teachers might have the same success.

To the pupils: This is a *selection* paper. In the spaces in front of the numbers in Column I place the letters of the phrases in Column II which best explain them. Write the letters clearly in the spaces.

Column I	Column II
..... 1. Jefferson	A. Proposed the Kansas-Nebraska Bill
..... 2. Clay	B. President of the Confederate States
..... 3. Garrison	C. Declared our Government was made for the people, by the people and is answerable to the people
..... 4. Jackson	D. Declared this government cannot exist half slave and half free
..... 5. Marshall	E. Acted as mediator between the South and the North for a period of thirty years
..... 6. Calhoun	F. Purchased Louisiana
..... 7. Webster	G. Published the Liberator
..... 8. Lincoln	H. Established the Spoils System
..... 9. Davis	I. A very prominent chief justice of the Supreme Court
..... 10. Douglas	

Mathematics and Reading

Informational reading in mathematics. The importance of reading as it relates to the reading of problems and the specific skills involved were discussed under the work suggested for intermediate grades. The arithmetic of Grades VII, VIII, and IX, the applications of percentage, etc., includes much that is more civics than mathematics. This social background material is informational, requires careful reading and a rigorous checking of comprehension. This is a strictly work-type reading. The lessons which follow illustrate the peculiar importance of reading when such a topic as bank-

ing is to be studied. Similar lessons would be valuable in study of insurance, taxation, and budget-making.

Attention is called to the fact that pupils are reading various texts as well as other material. Single copies of different textbooks should be provided so that pupils may have an opportunity to read the explanations and information as presented by different authors. The different sets of problems also afford the teacher a means of adapting the class procedure to individual abilities.

Reading extensively for information regarding savings. The subject under discussion was "the best way to invest money after it has been saved." The close contacts of banks and schools make the question of savings pertinent in all schools. Various suggestions were made, but the best one was: "Get advice from some trustworthy banker or the Better Business Commission." While the discussion might well have ended with this advice, the pupils proposed that, the next time a representative from the Banker's Institute came to the school to talk, they quiz him as to the various proposals that had been made relative to investing money. In order that they might be able to ask intelligent questions, the class decided to do some reading relative to investments. These references were read:

Commercial Accounts:

Wentworth-Smith, pp. 149-158, 160-62.

Chadsey-Smith, pp. 199-203.

Lennes, Jenkins, pp. 122-123.

Hunt, p. 218.

Hoyt and Peet, pp. 80-83.

Anderson, pp. 166-169.

Smith, pp. 25-26.

Talks on Banking, issued by Committee on Public Education,
American Bankers' Association, 110 E. 42nd Street, New
York. Talks Nos. 2 and 6.

Similar references were provided for savings accounts, stocks, bonds, and other investments.

Reading of a more technical nature was done by all members of class when the teacher brought to class a real stock certificate and again when each row chose some stock as a pretended \$1,000 investment and read the daily stock quotation page of the local newspaper.

The test of the comprehension of this reading came when the pupils prepared the questions which they asked the banker. The questions were of the following type:

Why do banks pay such a small rate of interest on savings accounts when it costs so much to borrow money?

What causes the variations in the price of Liberty Bonds?

Can a depositor ever write a check on a savings account?

The close relationship of ability to read carefully and mathematical information is further emphasized when pupils are given such an arithmetic test as the following, which involves no manipulation of figures, but rather tests reading ability.

To the pupils: This is a *true-false* paper. In the spaces in the margin below write the word *yes* before each statement that you think is correct, and the word *no* before each statement that you think is not correct. Do your best and answer every statement.

- _____ 1. A post-dated check is one that bears some previous date.
- _____ 2. In recording the amount on a check in writing, the writing should be placed very near the left end, with the first letter a capital.
- _____ 3. When you wish to open an account at a bank, apply at the teller's window.
- _____ 4. Amounts in currency, silver, and checks are listed separately on the deposit slip.
- _____ 5. The stub properly filled out will show the total number of checks cashed to date.
- _____ 6. When indorsing a check, sign your name as you usually write it, disregarding the way it is written on the face of the check.
- _____ 7. To stop payment on a check, notify the bank on which it is drawn.
- _____ 8. The passbook should be presented with each check to be cashed.
- _____ 9. If a check is lost, payment may be stopped by notifying the bank on which it is drawn, giving description of check.
- _____ 10. A passbook is issued to you when you open an account at a bank.
- _____ 11. A check should always be filled out in ink.
- _____ 12. In making out a deposit slip, the bank cashier's name is written in the place indicated.
- _____ 13. A check is endorsed in full by the payee's making it payable to the order of some bank or individual and then signing his name.
- _____ 14. Endorse a check in blank by simply writing the name on the back exactly as it is written on the face.

A somewhat different type of reading was done by a class in response to question raised by a pupil: "How shall the bank keep valuables safe?"

This list of readings, compiled by the pupils and teachers, illustrated the sort of reading unit which such a problem stimulates:

1. Pamphlet, "Better Banking Under the Federal Reserve System," Commerce Guardian Bank.
2. Pamphlet, "A Catalogue of Departments," Commerce Guardian Bank, p. 14.
3. "Bank Facts," Dime Savings Bank, pp. 11-12.
4. "A Brief History of Banks and Banking," Cleveland Trust Co., pp. 6, 9, 13-15.
5. Other similar bank literature.
6. *Scientific American*, October, 1923, article entitled, "Protecting Our Great Banks," pp. 222-223.
7. *Literary Digest*, June 7, 1924, article entitled, "It's a Great Idea, But—," pp. 56-58.
8. "Our United States," Guitteau, pp. 333-37, 459-60, 523.
9. "Trust Companies," Herrick, pp. 43-44.
10. "History of the United States," Elson, pp. 731-32.
11. The World Book, Vol I, "The Story of Banking," pp. 576-85.
12. The New International Encyclopedia, Banks as Lenders, p. 624; Banking in the United States, pp. 627-28.
13. Other good encyclopedias.

Interpreting Numbers Significantly While Reading: "Reading Mathematically." When pupils read their problems, they are inclined to neglect all but the figures involved and often must be trained to neglect the quantitative elements until their relationship is established. On the contrary, in the reading done in newspapers, magazines, etc., the reader is just as apt to ignore the quantitative terms and so fail to comprehend the full significance of the article.

A teacher gave this newspaper clipping to the pupils to read with the remark: "I want you to find out how much attention you are giving to the actual figures which occur in a current-events topic. After you have read through this short article make any comparisons which strike you as interesting."

Summary of World Flight

History of the world flight, told in a few words, follows:

Distance: 27,534 miles.

Flying Time: 14 days, 15 hours, 11 minutes.

Speed: 76.36 miles an hour.

Start: Seattle, Washington, April 6, Sunday.

End: Seattle, Washington, September 28, Sunday.

Average Distance of Hop: 483 miles.

Gasoline Used: 21,060 gallons.

Spanned 21 countries, 21 states, and one territory.
Four world records established.

The following test enabled the pupils to check both the accuracy of their reading and the extent to which figures are significant:

To the pupils: Choose the ending which makes a true sentence.

1. The average speed was about (a) 75 miles an hour.
(b) 175 miles an hour.
2. The time the men were actually flying was (a) six months.
(b) one month.
(c) one-half month.
3. The time the men were away was about (a) six months.
(b) two months.
4. The distance traveled was about (a) 7,000 miles.
(b) 27,000 miles.
(c) 20,000 miles.
5. The mileage obtained by each plane was (a) 4 miles per gallon.
(b) 1 1-3 miles per gallon.
(c) not given.

Reading in Science

Purposes of reading in science. The general interest in science which is evidenced by school pupils, particularly those in upper grades, leads inevitably to a variety of forms of extra-class reading. In this field the reading that is done may or may not be in connection with work that is being done in the school. If it is in connection with, or because of, school work, it is a distinctive addition thereto, and it is, moreover, an evidence of the value of that school work. It forms a definite proof that at least some of the work of the school is meeting the life problems of its pupils. Even if it is not a part of the formal portions of school activity, it is, nevertheless, valuable and might, or should be, utilized by the resourceful teacher.

The reading in science may run a gamut from a most extensive form of pleasurable reading on the one hand to a most intensive type of concentrated and work-type reading on the other hand. Of these, the pleasurable form of reading is in all probability the more prevalent among adults as well as among school children. It is an evidence of a general scientific interest in an age when science is assuming an ever greater and wider relationship to daily living. There is no particular objective in this reading, save recreation.

The mediums through which it is carried on are those of the popular magazines relating to science, magazines which stress the new and which are profusely illustrated. Among these are such journals as *Popular Mechanics*, *Popular Radio*, *Popular Science*, and the like.

Of the more intensive forms of work-type reading, there is evidence to show that such reading is fairly widespread among children of school age, particularly among those of twelve years and older. This type of reading is motivated by some special form of interest, and the extent of the reading, as well as its value from an educational standpoint, is determined in all probability by the strength of that interest. The work of Boy Scouts, for example, particularly when that work is on a high plane, is conducive to reading of this type. Boys speak of "working" for Merit Badges in a very true sense, and the reading that is involved includes much work-type reading in science. The Merit Badges in "Electricity," "Automobiling," "Signaling," "Public Health," "Personal Health," "First Aid," and the like, necessitate a large amount of reading in science—reading that is in terms of a definite and distinct purpose, and reading that is accompanied by activities designed to make it effective. In a somewhat less extensive field the work of boys, in general, in radio serves the same end, and through this type of intensive reading many boys have acquired an extraordinarily technical vocabulary and a familiarity with scientific facts concerning radio and electricity that would be difficult to parallel in any of the school work that is done with pupils of like age. It is significant, however, that the independent reading which is thus carried on by pupils is usually reading about construction and activity; it is seldom the theoretical, textbook type of reading.

Intensive Reading Relative to a Problem in General Science

The work-type reading which pupils must do in order to solve the problems of general science is of two distinct types. First, they must be able to comprehend factual material which they read. This comprehension involves understanding the vocabulary, being able to apply principles, to draw inferences, to relate what is read to experiences, and to suggest new problems. Second, pupils must be able to read the directions of an experiment so that they may carry it out. In the illustrative material which follows, the relationship which exists between independent study and reading is demonstrated.

When material is so organized that pupils are under the necessity not only of reading but also of assimilating, when pupils must read and check their own performances, when all pupils participate actively, independent study is accomplished.

In the general plan of this course the pupils work independently through one problem and then discuss together the exercises and topics assigned. Pupils are able to accomplish varying amounts of work and the teacher is able to make a careful analysis of the pupils' difficulties and to assist them accordingly.

The general heading of the unit from which this illustration was taken is "How Our Homes are Lighted."

To the students:¹⁰ At the beginning of each problem of this course you will find several questions and exercises. These will help you to recall what you already know. You may be asked to answer them in class or in your notebook. If you cannot do all of them at the start, do those which you can. Later you can go back and complete all of them. Most of these questions were asked by girls and boys in other classes. It will be interesting to see how many you can do before studying the unit and also to see how soon you can complete all of them.

For each problem of the larger unit which is to be solved you will find interesting reading material and experiments. The exercises at the end of each problem will give you an opportunity to show how well you understand it. When you are sure you can do the exercise, put your books away and do it.

When you have finished all of the exercises at the end of each problem, and feel sure that you fully understand the unit, prepare yourself to talk on the list of recitation topics given by the teacher. Use the blackboard to illustrate what you say or you may want to perform an experiment before the class to make your speech clear. These are for the rapid, careful students and are good tests to see if you can use the knowledge gained. These problems you may undertake in the library, at home, or in the science room after school. By completing several worth-while projects during the year you will show that you have ability to do things by yourself. Great scientists sometimes work months or years or even a life-time to solve a problem. To work for yourself requires originality, initiative, stick-to-itiveness and ability.

¹⁰ These directions for study, which are mimeographed and given to pupils to read, are an adaptation of the plan used by Mr. Beauchamp in his classes in University High School, the University of Chicago.

Wilbur T. Beauchamp, *"A Preliminary Experimental Study of Technique in Mastery of Subject Matter in Elementary Science."* Educational Monographs, No. 24. Chicago: Department of Education, University of Chicago, January, 1923.

How Were Electric Light Bulbs Invented and Improved?

Pre-view Questions

- What changes have you observed in the newest electric light bulbs?
How many different candle-power bulbs are there?
Why do some bulbs burn out so quickly?
In what way are radio bulbs like electric light bulbs?
What is the difference between arc lights and bulb lights?

General Assignment

1. Find out when and by whom it was first discovered that electricity would run through a wire.
"Stephen Gray," *Stories of Great Inventions*, Burns, p. 44.
"Ben Franklin," *Stories of Great Inventions*, Burns, p. 46.
Galvani's experiments, *Stories of Great Inventions*, p. 50, also encyclopedias under "Galvani."
Volta's experiments, Bedford's *General Science*, p. 257 and *Stories of Great Inventions*, p. 53, also encyclopedias under "Volta." Perform experiment on p. 362, *Civic Science in the Home*.
2. Find out why it is that electricity makes some wires red hot or white hot when it runs through them.
See the topic "Electrical resistance" in *Science of Everyday Life*, Van Buskirk and Smith, p. 267, also problem 13, part 1, p. 254.
Common Science, Washburne, p. 230.
Civic Science in the Home, Hunter and Whitman, p. 355.
3. Find out how Edison experimented with carbon wires.
Stories of Great Inventions, p. 121, also encyclopedias under "Edison."
4. Find out why tungsten wires were substituted for carbon filaments in 1907 and since.
Civic Science in the Home, p. 248, also graph, p. 247.

Test

When you have read the references and performed the experiment, this test will tell you how well you have understood and remembered what you read. After you have filled in the blanks, the teacher will supply the key so that you can score yourself.

1. The man who first found that silk and hemp threads would conduct electricity was _____.
2. The man who first found out that lightning is electricity was _____.
3. The man who learned something about electricity while he was dissecting a frog was _____.

4. The man who made the first battery out of disks of metal was _____.
5. Was this a dry or wet battery? _____.
6. What metals did you use in making the wet battery cell? _____.
7. What substance did you dissolve in the water? _____.
8. Which will heat up quicker if an electric current is sent through it, a thin wire or a thick wire of the same material? _____.
9. What kind of metal heats up quicker than most others? _____.
10. In order to make a wire red or white hot, do we want to make it easy for the electricity to run through it or to make it hard? _____.
11. What did Edison make his first successful filament out of? _____.
12. What did he finally select to make these carbon filaments from after spending thousands of dollars and searching all over the earth? _____.
13. Carbon filaments have given way to what metal which is used most widely to-day in incandescent bulbs? _____.
14. Why is this new metal better than carbon for this purpose? _____.

Topics for class reports

These topics you are to prepare for discussion before the class after you have completed the regular assignment.

1. Why old bulbs had tips; why they can make them now without.
2. Why the wires which lead into the top of the bulb through the flat glass part are not made of tungsten.
3. Discuss the best kind of light for reading.
4. Use the information you have gained from your reading if you care to enter the "Home Lighting Contest."
5. Explain to the class how to read an electric light meter.
6. Take a light bulb apart and explain the parts to the class.

Acquiring and testing technical vocabulary. The following test might be used as a class assignment to stimulate pupils to read carefully and to attack a definition task independently. Pupils should thus come to see that definitions are best acquired through application and use and not by means of rote memory. Such a test might also be used as a means of review.

To the pupil: There are four forces which cause things to act in certain ways. Here are the names. By reading what is told you in these

four definitions, see if you can determine the name of the force which should be written in each of the blank spaces below. You are to read and re-read as often as is necessary while you work.

- A. *Gravitation* is a pull force that all bodies exert toward each other; most noticeable in the behavior of small bodies toward those much larger.
- B. *Cohesion* is the attraction that molecules of the same substance have for each other.
- C. *Adhesion* is the attraction of molecules of one substance for those of another substance.
- D. *Centrifugal force* is the force which tends to make objects which are moving on a curve shoot off outside the curve.

Now state which forces cause the following:

- 1. The earth goes around the sun because of the balance between _____ and _____.
- 2. You can write on the blackboard with chalk because of _____.
- 3. On a curve the outer rail of a railroad track is higher than the inner rail to prevent an accident due to _____.
- 4. It is difficult to flatten out a drop of mercury on the table because in this case _____ is stronger than _____.
- 5. Water wets your hand because of _____.
- 6. Water runs down hill because of _____.
- 7. If a whirling wheel flies to pieces, it is because is stronger than _____.
- 8. A top will keep spinning as long as the two forces _____ and _____ are the same.
- 9. Clothes can be dried in a whirling metal basket because of _____.
- 10. It is _____ that gives things weight.

Now test yourself to see if you can write the definitions at the top of the page on another piece of paper.

Industrial Arts and Reading

Types of reading in industrial arts. This is a field in which the place of reading is frequently overlooked. Too few teachers realize the importance of such reading as will supply informational background. The relationship of the workman to his fellowman; the economic status of certain fields of labor; the health, safety, and physical development of the workman—all such material should constitute an important part of the industrial arts course. That workmen should be able to read their trade magazines is an impor-

tant trade asset. The following books are given as reference books to be used by a class which is doing simple electrical repair work:

Practical Electricity for Beginners, Willoughby. Manual Arts Press, Peoria, Illinois.

Mechanics of the Household, Keene. McGraw Hill Book Co.

Electrical Construction. Timbie. John Wiley & Sons.

Automotive Repairs, Vol. II, *Electric Service Work*, Wright. J. Wiley & Sons.

Building Code of the National Board of Fire Underwriters. New York.

City Building Code and the Rules and Regulations Governing Electrical Installation, Inspection Dept., City Hall.

Electricity for Beginners. Harper Bros.

Magazines, newspaper items.

Catalogues and advertising matter.

Salvage materials used for illustrations.

In addition to this reading of informational material, another type of reading must be done when pupils work from the job sheet. The use of printed job sheets became general when, during the war, workmen had to be trained quickly and intensively. The slow method of giving oral instructions to large groups simultaneously and of delaying further instructions until the whole class was ready to progress, thus gave way to individual progress which depended largely upon ability to interpret printed directions.

A typical job sheet is given here because it illustrates another possibility of the written assignments of work. Such assignments necessitate careful reading and also provide a means of the individual attention on part of the teacher and of individual progress on the part of the pupils.

Job Sheet No. 6

Mechanical Drafting Eighth-Grade Industrial Arts

THE JOB To make a working drawing of an object that requires only one view.

Materials and Tools Regular drawing equipment and paper.

Procedure (Read the entire instructions and be sure you can answer the questions at the end before starting to work.)

1. Place paper on board, draw border lines and fill in title space.
2. Locate the *center of the working space*.
 - a. The *working space* is the area or space above the title block in which the drawing is to be placed. This is determined by extending the top line of the title block with the tee square to the left-hand border line and making a short line at "A," Fig. I, thus forming the rectangle ABDE. With the tee square as a straight edge, draw two *diagonals* intersecting at a point "C," as in Fig. I. *This is the exact center of the working space.*
3. To plan the location of view with respect to the center of the *working space*.
 - a. Observe that this drawing has only one view showing length and width of the templet and that the thickness is indicated by a note.
 - b. Observe that the length of the templet is $7\frac{1}{2}$ inches and the width is $5\frac{1}{2}$ inches. The top line of the drawing will be $2\frac{3}{4}$ inches ($\frac{1}{2}$ of $5\frac{1}{2}$) above and the bottom line will be $2\frac{3}{4}$ inches ($\frac{1}{2}$ of $5\frac{1}{2}$) below the *center of the working space* "C." The left lobe of the drawing will be $3\frac{3}{4}$ inches ($\frac{1}{2}$ of $7\frac{1}{2}$) to the right and left of the center "C," as shown in Fig. II. These lines will locate the position of the front view of the object that you are to draw, which, in this case, is a templet.
4. To Make the Drawing.
 - a. Measure horizontal and vertical dimensions as indicated in Fig I, placing dots as shown in Fig. III.
 - b. Draw light horizontal and vertical lines through the dots just made, as shown in Fig. IV.
 - c. Complete the outline and erase all construction lines, as shown in Fig V.
 - d. Put in dimension lines (how heavy?), extension lines (how heavy?), arrow heads (how heavy and where?) and figures shown in Fig. I.

Questions:

Why is it advisable to center the drawing in the working space?

Why is it necessary to show only one view of the templet?

Do you think that you could make a templet for the first letter in the name of your school, from which you could cut felt letters for arm bands?

SUMMARY

Every chapter of this report has attempted to emphasize the fact that reading is not a separate curricular activity but is a tool by which subject matter in all fields is interpreted and experienced.

This chapter calls particular attention to the intimate relationship between this tool and the purposes for which the pupil studies geography, history, mathematics, industrial arts, and other school subjects.

The difficulty which constantly confronts the teacher is to keep the reading skills sufficiently in the foreground that they may be improved and refined, yet at the same time to make them subservient to the real interests and larger purposes for which pupils read

CHAPTER VI

THE RELATION BETWEEN READING AND LITERATURE

Purpose of this section of the report. As with other content subjects discussed in Chapter V of this report, the teaching of literature, in the more restricted meaning of the term, presents special problems which have to be considered in a survey of reading. Literature has in the past been most often taught by analytic methods supposedly or actually appropriate for reading as study. The chief purpose of this chapter is to present the need for a portion of the school day devoted entirely to recreational, as distinguished from work-type reading. It will include a discussion of the following points: (a) the purposes of literature in the school program; (b) the principles for selecting literature for grades and high schools; and (c) the principles of effective method in teaching literature.

I. WHAT ARE THE VALUES OF LITERATURE IN SCHOOL AND IN LIFE?

A statement of aims. Teachers have always professed to be concerned with the relation of literature to ideals and attitudes, appreciation, and conduct. Yet in reality the teaching of the subject has been chiefly concerned either with the memorizing of facts to be discovered in literature or about it, or with a narrow and coldly analytic study of the mechanism of words, rhythms, figures of speech, and like elements of structure. Dr. Hosis's study¹ has shown that the net result of such teaching has been loss and not gain in appreciation. All teachers should examine the accepted purposes of teaching literature as presented in that study. They should, in particular, read and criticize the stenographic reports of lessons in that book, discover their own portraits, and analyze the effect they are actually producing by their work. It seems clear from Dr. Hosis's data that the analytic study of literature which has prevailed in the past, and much of the notes, questions, and other editorial apparatus in school texts, have worked directly against our best conceived and accepted purposes of teaching this subject.

¹ J. F. Hosis, *Empirical Studies in School Reading*. Teachers College Contributions to Educational Theory, Columbia University, New York City, 1921.

Literature as a means of fuller living. By viewing our problem in the light of the real purposes of literature we can perhaps get the problem in perspective. The finest and most inclusive statement of the value of literature is probably that it may make our experience deeper, wider, and more satisfying. It may help us see our own lives and surroundings as more fresh and interesting; it may also help us, by recombining the elements in our past experience, to live imaginatively in different times and countries and in characters otherwise remote from our understanding and sympathy. This is here suggested as the most basic and satisfactory statement of our aims and purposes in this field.²

That such results can indeed come from books is a matter of common experience. "When the constituents of situations are familiar, it makes relatively little difference in understanding whether one observes directly under the eyes of sense or indirectly through the eyes of language."³ Everyone who has truly lived in a great book has come to a fairer view of his own surroundings, of his own actions and motives and those of his contemporaries. "The curriculum is not books, but experiences. The educational value is always *what happens in one* when he reads." Through acquainting pupils with the greatest and finest sources of genuine experience during the hours of recreation and true enjoyment in school, we can surely and wholesomely stimulate their interest in the life to be lived in books and broaden their interests to include new and excellent types of experience everywhere. But such guidance, to be effective, must probably be done without moralizing and pointing out ideals; the essential point is to let the great book alone or at most constructively to help it exert its own influence upon the reader.

The revelation of the range of experience is clearly wider and deeper than appreciation of beauties of style and subtleties of rhythm which have often been the staple of courses in literature. As to developing appreciation of literature itself, we may safely assume this as an inevitable by-product and result of right attention

² This point is well presented in Chapter I of Dewey's *Reconstruction in Philosophy* (Holt, 1921) and in Chapter XVIII of Franklin Bobbitt's *The Curriculum* (Houghton Mifflin, 1918). See also the study by Dr. Hsieh referred to above, and Chapters I, II, and IV of Leonard's *Essential Principles of Teaching Reading and Literature* (Lippincott, 1922).

³ Franklin Bobbitt, *The Curriculum*. P. 226. Boston: Houghton Mifflin Co., 1917.

to the substance of literature—real experience. Such attention to the best purposes of literature in a broad sense may indefinitely extend the range and scope of pupils' interests. They may come thus to "find common elements in various lands and times, and grow to much-needed world understanding and sympathy."⁴

How to reach the proposed objectives. Such purposes are generally accepted as valid; they appear in courses of study and in introductions to texts. Means of reaching them in detail are more controversial, and except for Dr. Hosic's work already referred to, have not been made the subject of genuinely experimental study. The points in the remainder of this chapter, therefore, and particularly those as to teaching procedures, are presented as tentative conclusions only. Save where specific studies are referred to, they attempt to give the consensus of the best current opinion, and are subject to correction as a result of valid experimentation.

It is suggested first of all that real literature is most appreciated and makes its best contribution when it is approached in a recreational mood of curiosity, and not in the way of study and work. Moreover, by the definition we have given, many records of actual experience in science and history should be included in these literature readings, as well as fiction, plays, and poetry. These are usually and rightly considered part of the work in other school subjects. But it is equally necessary to include them in the literature period for the specific purpose of extending children's range of enjoyment—letting them have various sorts of fun with their minds. Out of such reading experiences may arise many of the interests and motives on which permanent habits of reading are based. In so far as we can meet varieties of interest in this way and not compel boys who are more interested in popular science to read lyric poetry, we have more hope of developing a generation of people deeply interested in the experience to be met in books.

II. THE SELECTION OF LITERARY MATERIALS

Types of literature. The principles for selecting books for reading and literature are treated further in Chapter VII of this report. It is here sufficient to emphasize that the enjoyment of real expe-

⁴ Franklin Bobbitt, *The Curriculum*. P. 224. Boston: Houghton Mifflin Co., 1917.

rience, and not any vocational or utilitarian end, should alone dictate our selection of books for the literature hour, in classroom, library or home. In fact, we shall come nearer our aim in this field, the more we stress just hearty enjoyment as our basic and central aim.

There are, however, several sorts of literary enjoyment and of books that feed such enjoyment. Five types may be cited here:

1. Books which are true to fact, but uninteresting save as sources for looking up facts; for example, the *Census Abstract* and *World Almanac*, encyclopedias, and most textbooks. These obviously have no claim to rank as literature.

2. Books that are true to fact, really interesting, excellently handwritten, as Parkman's *Jesuits in America* and Ernest Baynes' *The Sprite*. These, as broad extenders of interest through providing genuine experiences, have every right to a place in the literature period. They need the visé of subject-matter specialists—in the case of a children's encyclopedia, for example—before we accept them as accurate.

3. Books which are really interesting and which, though they do not report what actually happened, have the still more significant virtue of truth to human experience—which are real and true to life, though not actual. The best fiction, drama, and poetry, from *Robinson Crusoe* and *Oedipus the King* to *The Mill on the Floss* and *Saul* and Lulu Vollmer's *Sun-up*, satisfy these requirements. To find the books in this group which, to the pupils in our class, are real and genuinely compelling, is the major task of the literature teacher.

4. Those which pretend to be true to life or to fact but are neither, *e. g.*, Curwood's *Partners of the Wilds*, the novels of Wright, Alger, Porter, and most of the war verse of the *Vigilantes' Book*. It is the business of literature teachers to discover, and by open-minded discussion and comparison with reality to reveal, the hollow pretensions of such books. So long as pupils try to use the experiences these present as valid pictures of life, they are certain to misunderstand reality in one way or another; but the harm of such books is little so soon as they are seen to be untrue.

5. Those which make no pretense to being other than fanciful. *A Midsummer Night's Dream* and all fairy lore and myths—though once credited as truth—humorous stories like those told by Bill Nye and Owen Wister's *Virginian*, and nonsense verse, are of this type.

They are matter for hearty enjoyment; we need more, particularly, of fun and nonsense in most literature hours in the grades.

Literature for the primary and intermediate grades. The child's first story interest often lies in perfectly matter-of-fact statements of what he does every day—accounts of the actual and familiar, as in the *Here and Now Story-Book*. This grows later to liking of tales like *Little Women* and verse like Riley's. On a lower level, the literature of platitude—the local items in village papers, many magazine stories, newspaper writers like George F. Adams and Edgar A. Guest, and collectors of memory gems feed this demand constantly and flatly. The vogue of platitude indicates that people who like it have never grown beyond an early stage; they enjoy a mill-round of feeling over and over again the same sensory impacts and emotions.

The child of four or five years enjoys elements of wonder mixed with reality, but these must always be in some fashion realized or experienced if they are to have any meaning or give any pleasure. To the small child any wonder is possible, for he sees incredible things all the time about him. No deliberate suspension of belief enables him to take pleasure in the adventures of Gulliver or Sinbad or Rip Van Winkle, but whole-hearted and happy acceptance. In the primary and intermediate grades there seems to be no harm whatever in the child's delight in improbabilities; they need only be decent and not too frightful. The one essential in this period for every schoolroom is ample supplies of the best stories the children can be led to care about, and every encouragement for their free reading and enjoyment. We need more beautifully illustrated editions, a larger range of subjects, and more catholicity of enjoyment. Probably our teaching of literature has more often failed because of niggardly lack of fine materials than for any other reason. Chapter VII of this report makes possible a wide and happy choice. The range should be from the delightful nonsense of Mother Goose as far as children's tastes and interests will lead them; but it will rarely extend beyond a keen interest in incredible adventure, the fun of Lewis Carroll and "Dr. Dolittle," and the strangeness or homelikeness of child life and animal behavior in various places.⁵ There is rarely much genuine interest in the sort of literary staple

⁵ See the lists of materials, Ch. VII.

most frequently found in school literature-books, namely, poems of the seasons and flowerets and birdies.

As we noted earlier in this discussion, the literature courses for either grade-school or high-school pupils need to provide few or none of the usual "editions" of classics with scholarly annotations; these make a book neither literature nor anything else. It is particularly important also that the books for our reading shelves and outside reading are really attractive in appearance. The evidence so far gathered seems to show that good make-up and binding greatly increase the chances of books being read and enjoyed, and conversely that cheap and poor editions prevent excellent books from becoming known.⁶

Very early, children's keen interest in real things leads them naturally to question the actuality of stories. While some pupils in a class are still deep in the fairy-tale era, others may be turning disappointedly from *Robinson Crusoe* because they learn that it is not a "true story." We should at all times meet this question frankly, telling pupils that fairy tales and romance are, like nonsense, just for fun, that *Robinson Crusoe* is true to life and experience, though the adventure never really happened exactly as it is told, and that Kenlon's *Fighting a Fire* or Beebe's *Jungle Nights* is an excellent account of matter of fact. It is so essential that children come to understand and make these difficult distinctions that our business is clearly to help them every time.

The junior-high-school years: development of interest in real life. In the junior-high-school period this demand for actuality and for truth becomes especially insistent. These are years of earnest, sometimes pathetic search after the truth of experience. And here it is possible to do most harm by wrong recommendations or by failure to recommend fine and great books. Innumerable cheap stories nourish this love of adventure, common to girls as well as to boys, with impossible instead of real stories of boy vigilantes, scouts, motor girls, and desperadoes, of single-handed combats against odds, and of stupidly incredible luck.⁷ We need, of course,

⁶ Florence Bamberger, *The Effect of the Physical Make-up of a Book upon Children's Selection*. The Johns Hopkins University Studies in Education, No. 4. Baltimore: The Johns Hopkins Press, 1922.

⁷ Arthur M. Jordan, *Children's Interests in Reading*. Teachers College, Columbia University. New York City: Bureau of Publications, Teachers College, Columbia University, 1921.

to replace these with more excellent books of like appeal. One boy expressed a common opinion when he said *Treasure Island* was "like a dime novel, only better."

In particular, it seems probably that an apparent exception to our statement—the keen zest for romance on the part of adolescent children—is simply an often misdirected effort to find real experience in fields utterly foreign, to gain light upon ideals as yet misapprehended or vaguely distant. Children need far more experience of actual and achievable heroism than teachers have been giving in the dim and valorous romances of paladins and mythic heroes, far better ideals of human relations than are taught in the stories of Lancelot and Robin Hood. Like the untrue books we have mentioned, these are perfectly good so long as they are recognized as romances and not taken for reality; but we need more of reality, too, more in particular of such great stories of heroism as are presented in Duncan's *Dr. Luke of the Labrador* and Archibald MacMechan's *Sagas of the Sea*.⁸

Books of really vivid and true experience are often best of all, in the senior high school especially, because they may have a full measure of truth and significance and of power to build fine ideals, and at the same time they are recognizable, because of their essential truth, as possible, achievable strivings. The great biographies—as of Wilfred Grenfell and Anna Howard Shaw—and those treatments of science and history which present them as the development of human action and human thought, are above all invaluable here. Children like to read of Joan of Arc or of Captain Scott, for example, because we all admire the heights of courage to which human beings can rise.

Interest in human nature and human relations. Out of children's interest in types of goodness and badness in fairly tales and breathless adventure stories, through the appreciation of individuality of character in Stevenson's and Dumas' romances, another interest grows toward maturity—young people's concern with human nature and human relations. This is developed, beyond mere story-interest, through the curiosity about reality which becomes strong in the junior-high-school period. But in these years this concern is to be touched only lightly and casually; it must not be forced in the

⁸ J. M. Dent & Sons, Ltd., London and Toronto.

reading of literature or it is lost. Interest in other people as individuals is a slow-growing, rather adult preoccupation. Its culmination is the absorption in biography and memoirs, and the interest, by middle-aged people who can read and think, in character portrayal by Eliot, Shakespeare, Galsworthy, and Conrad. In much the same way people turn to lyric poems for the best expression of human feelings in the face of crisis or beauty or to renew their sensibilities of what is about them. All people are more or less intelligently interested in human nature and its meeting of circumstances difficult or tragic, in the play of cause and effect in human actions.

Such concern begins naturally and unforcedly with observation of curious persons in street cars or ten-cent stores. We should then parallel it in the best books that adolescent children can understand or care for, and develop it to the full. Such reading is related closely to widening ideals and to gaining intelligence in relation to life and fellowmen.

Truth, significance, and realizable experience. Humor and fancy, then, children learn gradually to discount as unreal; but we all go to these for enjoyment and the wholesome relief of turning away from reality occasionally. Provided one is perfectly sure of what he is doing, this is quite all right. Aside from this province of romance, however, if we would make our teaching of literature of utmost value in the enrichment of experience, teachers need to hold, in the selection of books particularly for high-school children, to the principles of truth and significance.⁹ If the books we give pupils are not true to experience, it is necessary to realize this frankly and to help them to do so. From the feeble romances of Curwood and Wright, Myrtle Reed, and Gene Stratton Porter, the worst harm can be rooted out if only we lead pupils to see that they do not truly picture cause and effect in human affairs.

As to significance, it matters greatly that the writer help us see something new or see the familiar in a new aspect. The book that makes people angry, as Arnold Bennett points out, is very often the good book which has made them feel and think unwontedly. *Main Street* may be closer to journalism than to literature, but it has present value and importance in so far as it has made people

⁹ S. A. Leonard, *Essential Principles of Teaching Reading and Literature*. Chs. I-VI. Philadelphia: J. B. Lippincott Co., 1922.

view their own villages and the small town of traditional literature with a different eye. We can follow these essential principles of truth and significance, and in knowledge of children's nature and needs, select those books which are of real worth to them because they can themselves build up afresh and enjoy the experiences. Thus our literary selections will be of worth and importance.

In summary, we need in the high school, as in the grades, very much more of real literature and fewer "books about books" and other mere texts. We need more books of genuine interest to children and fewer romances and character studies and books of adult nature-interest, particularly in the lower grades and the junior high school. The character of children's choices is very well reviewed in the recent articles by Miss Mackintosh,¹⁰ Miss Garnett,¹¹ and Dr. Lyman¹² in the *Elementary English Review*. Dr. Cavins'¹³ study particularly shows clearly that general practice places poems from one to three grades too early in the curriculum.

CLASSROOM PROCEDURE IN THE TEACHING OF LITERATURE

An essential condition of literature teaching. In the literature classroom everything is to be done which actually tends toward the fullest and most vivid realizing of experience, and everything is to be excluded which has to be justified alone by its supposed value as information to be remembered, or the like. Probably more harm has been done in literature than in any other subject by the mistaken zeal to secure memorized facts. The essential principle here has been well stated in the discussion of the teaching of reading in the intermediate grades:¹⁴ "The fact should be emphasized that when reading occurs in connection with a class activity, the reading process itself is of secondary importance. If pupils encounter difficulties, they should be given at once whatever

¹⁰ Helen K. Mackintosh, "A study of children's choices in poetry," *The Elementary English Review*, 1 (May, 1924), pp. 85-89.

¹¹ Wilma Leslie Garnett, "A study of children's choices in prose," *The Elementary English Review*, 1 (June, 1924), pp. 133-137.

¹² Rollo Lyman, "What poetry shall we teach in the grades?" *The Elementary English Review*, 1 (June, 1924), pp. 145-154.

¹³ L. V. Cavins, *Grading Poems for School Use*. An unpublished doctor's thesis, Department of Education, The University of Chicago.

¹⁴ Quoted from another chapter of this *Yearbook*.

help is needed that the activity may go forward. A record should be made of the types of difficulties which are revealed and special help provided later during regular reading periods."

The same thing holds true of the usual zeal of teachers and textbook editors to cumber the pursuit of genuine experience, valuable in and for itself, with the misapplied purpose of inculcating facts as to dates and sources and matters of scientific or historical exactitude. The more surely we can eliminate attention to the technique of reading and to irrelevant data of other subjects of study from our literature hour, the more we shall be able to accomplish our purposes for that period. This does not deny the obvious fact that one must learn to read literature. As has been noted, the story which treats of character is so different from adventure tales that the approach to it must be quite distinct. So, too, the reading of lyrics is an adult experience which one must grow into. Reading a play and truly visualizing it is, as Stevenson has said, as hard as reading a score in music. If pupils are to learn any of these things, we need to help them do so, but this we can do only by centering upon the essential principle suggested above. Everything which contributes to the creative realization of experience, and nothing else, is to be justified.

The reader's purpose. Any procedure in literature periods needs to be judged in view of the purpose and value of a particular book or selection. In recreational reading of Fabre's account of the *Lycosa* spider, the reader's purpose should be to see and realize what the author presents, not to memorize his facts or the sub-classifications of spiders. In reading a vigorous tale of adventure, the whole procedure should be in keeping with the swift pace of the story, unhindered by any considerations whatever of character study or theme or moral.

When the central idea is essential, coming at and understanding that purpose or idea should be the final objective. In *Ivanhoe*, for example, out of the pageants of fight and tourney should emerge the idea that here is a story of Saxons and Normans finally settling down in unity together. This children can be helped to work out for themselves, and we should then let it alone. So with *Silas Marner*, in the senior high school; the book is not fully mastered until, from all its picturesque, vivid happenings, the author's central theme

emerges. The reader must get the idea for himself. But books with clearly defined themes which are really adapted to the junior high school and the grades below it are rare indeed. Mostly the story, the action, the colorful, living experience is the thing, and teachers have done their part if pupils join in "sensing" it happily, without any further stress of facts to be remembered or ideals to be formulated.

The enjoyment of literature in primary grades. In the first six grades the principal objective should be the cultivation of habits of real enjoyment of books. Here is no place whatever for consideration of style or structure or for anything save the happy pursuit of experience for its own sake. It is pretty plain that this end can be most fruitfully begun by excellent reading aloud, either by the teacher or happily and spontaneously by those pupils who enjoy a book or selection and want to share their enjoyment. The perfunctory reading as a class requirement which has most often characterized literature periods is unquestionably a tremendous bar to any true appreciation. The point is well taken that pupils appreciate a good piece of literature better when they really interpret it to others; but it is equally true that they cannot interpret it until they have themselves in good measure understood it and cared for it. This essential has been most often overlooked in school reading.

Moreover, since adult reading of literature is most often silent reading and we want to help children to do that well, so most recreational reading in schools may well consist of enjoying books, each pupil with his own, reading silently save for pleasant chuckles or an irresistible desire to show some good bit to a friend or teacher. Where the approach to reading is normal, this silent reading will begin very early, and it should be the prevailing type of literary enjoyment, save where help is actually needed to interpret and realize what is presented, and this more often at the request of pupils than on the initiative of the teacher.

For that literature which is concerned with emotion and beauty—poetry, particularly, and poetic prose—good oral reading is one route to natural appreciation. In the early grades at least, as in a measure throughout the grades and the high school, reading by the teacher is the medium. Wherever children feel and enjoy a vivid or beautiful or funny experience, oral reading, always one

of the best forms of expression for their feeling, should constantly be stimulated and developed for the genuine purpose of sharing pleasure.¹⁵ This is the chief place for oral reading in schools to-day.

Children in the University of Iowa elementary school heartily and joyously sing old English ballads. The selection is made up for the most part from their own spontaneous asking for those they have most enjoyed. Here, again, admirable informal teaching of literature is done. So, too, where children dramatize *in their own way* the small stories that they like best, we have everything that is needed for our purpose.¹⁶

A good picture of happy, spontaneous enjoyment of literature is to be found in Dorothy Canfield's *Understood Betsy*, Chapter VII, where Betsy reads "The Staggit Eve" in the farm kitchen. There is no unnecessary intrusion of facts or details—perhaps less than we might well justify; but there is a clear sense of the experience the author wanted to present, and that is the one essential. Reading aloud, in fine, should be without any comment not genuinely contributory to the experience desired. Whatever class discussion occurs must never be in the form of recitation designed to test whether pupils have studied the assignment;¹⁷ it should never be the giving of predigested information by the teacher. It must always be a sharing of real experience. In so far as we meet this condition, we achieve the end of all teaching of literature. So when a class of city children pool into the common fund their experiences on a farm, with diagrams and graphic comparisons, so as to see the pictures and feel the whole of the experience in *Snowbound*, we have a genuine literary experience and very real enjoyment. That is the end and purpose of our work. One caution, however, is essential here: this does not mean teaching and insisting on boresome details of long "literary" descriptions. The best descriptions are short, in Homer and Tennyson, for example; poor descriptions are dull and long,¹⁸ and should be skipped without hesitation.

¹⁵ Emphasis on this point is given in a thesis by Principal Reinhardt Ruhnke of Mineral Street School, Milwaukee, in preparation at the University of Wisconsin, entitled "Investigations into the Subject of Reading in the Milwaukee Schools."

¹⁶ See Caldwell H. Cook, *The Play Way*. London: Heinemann and Co., 1913. New York: Frederick Stokes, 1917.

¹⁷ See Ch. IX.

¹⁸ Allen L. Carter, "Did Lessing say the last word on description?" *English Journal*, 13 (June, 1924), pp. 396-401.

The basic principle of literature teaching. All this may best be summed up in the principle: The approach to literature for real experience and enjoyment must never be analytical and critical; it must always be co-operative, creative; it must be the reader's attempt to put together out of his own past experience those pictures and sounds and odors the writer presents. Very rarely has classroom literature-teaching centered on this aim. Unless it does, teachers will continue to develop distaste for genuine literature and turn pupils back upon the cheap and shoddy. The real "books for all time," even when we succeed in selecting among them those that fit children's ideas and interests, are harder to assimilate than the poor, obvious stories—the thrillers and soporifics. We must not get in the way of the best books with quizzes and annotations on irrelevant details; rather, we must join sympathetically with children to help them live into new experiences and to get from them what is vital and rich for each child's growing and expanding needs.

It is important to develop *speed and delight* in the reading of literature, particularly in the earlier years.

Literature in the junior and senior high school. There is no essential difference to be observed in the teaching of literature in the junior high school from that in the intermediate grades. Both should lead to "experiencing literature," in the best sense of the word. Children's interest is still chiefly in simple adventure and humor and homely everyday happenings. A growing search for reality, suggesting a change of emphasis in selections used, requires a greater wisdom and finesse of approach in the junior-high-school years. It is at this point that books of cheap adventure can most easily be 'scotched' if we help children to see their impossibility. At the same time we must not mislead into belief in incredible romance, these searchers after reality and genuinely realizable ideas.

It has been suggested that interest in other people first appears as a definite and distinguishable motive in the junior-high-school years. Pupils like to note Jim Hawkins' misreading of the character of the one-legged sailor. They observe and enjoy various opinions—his wife's and the children's—of Rip Van Winkle's character, and laugh at the greed and cowardice of Ichabod Crane. They sometimes like to discuss these points—but not at length—speculating what the characters would do under this or that situation, discussing

whether they are likable or admirable. One small boy, speaking of Godfrey Cass' guilty dilemma, said: "Yes, I know just how he felt." All of this is the finest and most direct route to appreciating one's own experience, which is one significant aim of literature.

But teachers probably make a great mistake when they force this note. They should let such interpretations grow, enjoy all they can of children's frank discussions; join in, but never dominate with their own ethical theses.¹⁹ Again, they need to help in creative realization and to keep away from analysis; otherwise, they often stop this desirable growth toward real appreciation of character and conduct, which is the purpose and concern of much of the finest fiction and drama and poetry.

Even more does the caution against microscopic analysis apply to the consideration of style and manner. Scholars rightly care much for these considerations. It is doubtful if such appreciation is fundamental to the dominant purposes of literature in schools. Even in the senior high school there should probably be little, if any, attention to form or manner, save for those pupils who want to write poetry or stories themselves. The chief place for study of style is clearly in elective courses in literary composition or in other classes as optional assignments for those interested.

When, in reading a Shakespeare play or a Norse story, something of the background will help in *realizing* and living the story, such matters may be presented briefly, or good readers in the class may look up and report on a few essential details. So for biography of writers and the history of literature and literary types. Very little of this is ever genuinely relevant to the main purpose of literature. Its chief value is in elective study of literature in college. If the historical treatment is left strictly subordinate to a sense of the experience, made in itself to contribute to that experience, it will do little harm. Usually it has appeared to stand between pupils and great books and obstructed their way.

Composition for developing the purposes of literature. The best appreciation of what literature genuinely is often comes from doing with our own experiences and imaginations the same thing as the author did with his. Little stories of adventure, humor, and nonsense,

¹⁹ A. G. Fairchild, *The Teaching of Poetry*, pp. 103 f. and 134 ff. Boston: Houghton Mifflin Co., 1917.

homely every-day happenings, fancy, and imagination—all that touches the pupil's own life and experience—are the materials for his attempts to share his enjoyment or excitement. Any normal child can be helped by genuine co-operation and encouragement to find in his own days the most interesting things to tell about. If he has a stimulating subject, one that is "personal, definite, and brief," any child will try happily to create from it something of his own. "Nature provided for the communication of thought by planting with it in the receiving mind a perfect fury to impart it." Provided a pupil is given opportunity to read many stories, he will naturally, in meeting his own problem, try the methods they suggest. It is doubtful whether teachers should ever assign—certainly they should never require—the imitation of any piece of writing. Rather, they should provide the greatest possible variety of experience and of modes of expression for the encouragement of children's small and simple attempts at literature. Where the dominant motive is the realization of experience, any procedure is usually right.

Book reports and credits for outside reading. From the primary grades to the high school, we have suggested the necessity of having in every classroom book tables and shelves with the best possible literature for children to enjoy in the form of supplementary reading. Under right conditions, books from home and perhaps occasional magazines should be welcomed to these tables, since it is important to help pupils evaluate the writings that they will meet outside the classroom. But the teacher must evaluate all contributions, and occasionally should exercise the veto for a definitely worthless book or story. A generous widening of interest is always better than close limitation to a book list, though the book list should be provided also.

Books should be available to take home, and the privileges of the book table should be extended, as fast as possible in the grades, to those who have demonstrated their ability to read. An excellent treatment of this is presented in an article by Miss Zirbes.²⁰ It has been mentioned already in the report on intermediate-grade reading that if pupils are keenly interested in good books and selections, there is little or no need of imposing artificial checks to

²⁰ Laura Zirbes, "Diagnostic measurement as a basis of procedure," *Elementary School Journal*. 18 (March, 1918) 505-522.

determine the thoroughness of their reading. It may be added that the good reader is almost without exception honest in these matters; he does not need nor care to cheat.

Those who read slowly and with difficulty, on the other hand, need special encouragement. They need to be given books that are easy for them, in which the swiftly moving action impels them to greater speed. These same pupils also need checks upon their understanding; but such checks need never take the form of the inquisitorial book review which demands the summary of the story, a life of the writer, etc., *ad nauseam*. It is easy in the reading period, whenever necessary, to check a pupil's reports by one or two questions only. One may, for example, read a brief passage and ask what happened next in the story, or may ask for an opinion on the hero's solution of a given problem.

Good types of book report. Two different types of report are really useful. The first is the pupil's personal reaction to the book, his opinion of what it made him think about or what he particularly liked in it. These should be definite, individual, usually brief. Sometimes pupils regard such reports as private and personal communications to their good friend, the teacher, and such preferences should be respected.

3 The socially more useful type is the promotive book report, in which the pupil, perhaps in three or four sentences only, gives his statement of what kind of book he reads and what he particularly recommends about it and illustrates by a quotation or an example. An excellent use of such reports is given in Miss Anne T. Eaton's article.²¹

Many teachers like to stimulate outside readings by a system of points, or credits. Mr. Blandford Jennings, of the East High School, Green Bay, Wisconsin, has an ingenious system of requiring for credit in outside reading the achievement of three fourths of the class median in points, and of giving additional credits for reading in excess of the reading median. Others prefer to give complete

²¹ Anne T. Eaton, "How the English department and the library can co-operate for the whole school." *English Journal*, 9 (December, 1920) 570-578.

"The Lincoln School Library." *Teachers College Record*, 124 (January, 1923) 7-25.

freedom in this respect and simply point out to laggards that they are not coming up to a reasonable standard.

Examinations and tests in literature. Like book reports, examinations on literature need rarely be inquisitorial. The best questions are probably those which can be answered with books open—which, like the best reading tests, center on understanding and not on memory. And those questions²² should never be upon minutiae—upon supposedly useful information rightfully belonging to science and history—but on central ideas and main currents of thought. It is particularly important that opportunity be given for varieties of judgment and opinion, provided these are supported by references to the books themselves. Such tests discussed freely and immediately, bring about the finest kind of classroom conference on literature.

It is important to emphasize also that the objective to be worked for is the pupils' own reaction to what is presented, their relating it to their own experiences and making genuine new experiences and thought out of it. For this purpose repetition of other people's critical opinions has little or no value. The development, checking, and refining of pupils' own thought best builds their appreciation of experience.

Examples of good and bad teaching of literature. As a summary of this treatment of literature, there are here presented, in inadequately brief fashion, contrasted examples of probably harmful and of excellent procedures in teaching literature in various grades. These illustrate briefly the main principles here assumed for reaching the objective of literature as a contribution to fuller living.

In the primary grades, pupils' reading aloud in execrable fashion while all have books before them, and the waste of time on stupid verse and prose like "Little Pearl Honeydew" and "The Character of George Washington," represent the worst abuse of the literature hour. When poignant verses of adult suffering like "Little Boy Blue" are used with little children, still another sort of harm is done, if the poem happens to mean anything to the pupil.

On the other hand, the true teacher of primary literature reads

²² A discussion of the use of true-false tests, with many illustrative questions, appears in the *Illinois Bulletin* for May, 1923, and for January and April, 1924.

Jabberwocky or *Dr. Dolittle* aloud and joins in the enjoyment, or gets pupils to tell small incidents of their own experience that make *Peter Rabbit's* adventure more real and exciting to all the class. She baits the reading table with attractively-bound picture books ranging from the *Railroad Book* to *Alice in Wonderland*. All look forward to the literature period as one of free delight. There will often be dramatizing of stories just as the children see them.

In the intermediate grades the formal reading in turn from books which all pupils have before them, stopping to look up in the dictionary unimportant words which should be ignored or briefly explained, and the intrusion of facts to be memorized and recited, destroy the illusion of experience to be built up. No eye is on the literature, but on the symbols and irrelevant appurtenances only. Teachers must not attempt to make literature a hard study like mathematics. On any level except in elective courses for specialists, it must be an enjoyable, free experience if it is to have its good effect. It is sufficiently difficult to expand and deepen experience, even when no artificial obstructions are set up.

Here should be continued reading aloud by the teacher, perhaps with comments of wonder as to what will happen next, and incidental explanation of troublesome words or answers to children's questions. This especially will mark the beginning of new stories and the attack on poems as yet beyond the pupils' independent powers. There will be no recitation of memorized facts. The test of whether things are understood can be readily enough accomplished by much more economical means than the waste of class periods in this fashion. Discussion will be really discussion, the asking of questions which pupils want answered, the presenting of various explanations, and, above all, supplementing the story by incidents out of their own experience—"reading between the lines," as Lyman well terms it.²³ There will be very informal dramatization and reading aloud by pupils of selections from stories or of verse which they like and want to share. There will be much free silent reading in every class. Informal tests of grasp of the story and informal book reports on outside reading will furnish what check is needed on the understanding of books read independently.

²³ R. L. Lyman, "The teaching of assimilative reading in the junior high school," *School Review*, 28 (Oct., 1920) 600.

The same pictures, essentially, depict literature hours in the high school. Stern questions on the biography of the writer, the editor's introduction and notes, the dates mentioned, the exact geographical location, the classification of plants and animals, and above all the formal definitions of words—all this stops interest in good literature, perhaps for all time.

Dr. Crothers suggests that teachers, in fear that literature is too easy to be disciplinary, have built barbed-wire entanglements about it. Literature is not too easy; to realize and live again an author's experience is a difficult feat, and we need to help, not to hinder. It is particularly necessary for this purpose to postpone for some time the heavier literature which we have forced down several grades below where it belongs. One teacher spends a class period having pupils look up all the polysyllabic words in two sentences of *Rip Van Winkle*. Another has pupils read, perfunctorily and needlessly, five lines in turn without relation to thought division. A third prescribes the gestures, movements, and inflections for a formal dramatization as if by puppets. Still another spends a deadly dull hour in hearing recited the names of Anglo-Saxon writers, their works and dates, or secures piecemeal, fragment by fragment, a reproduction of what all have read silently.

The true class in literature has none of these characteristics. Where necessary, the teacher may introduce pupils briefly to the time or mood or author of the story; but this introduction, to be good, must itself be real literature, and that is a hard requirement. The teacher, as leader of the group, may spend five minutes in a brief, objective test of whether pupils understand what they have read, and as much time as necessary in discussing the answers and allowing as correct all that the pupils can support sensibly by references to the book. He may call for volunteers for oral reading or reciting of selections which most of the class do not know, but which one pupil understands and enjoys, or of parts in plays, and may allow brief discussion of how well the reading is done. He may, perhaps, in the senior year of the high school, help set in perspective those authors and writers with which the class are familiar by assigning, and helping to make, a chart or diagram of the centuries in which they appear. Above all, by stimulating discussion, he will help give reality to the living experience the writer presented—

make it so far as possible a colorful, vivid pageant of experience; and he will then direct attention to the central idea or theme of the whole, which gives it artistic unity. By such means he can contribute to literature as a means of fuller living, and get, as fine by-products, a genuine appreciation of literature and a growing, because unforced, criticism of life and conduct on the part of his pupils.

CHAPTER VII

APPROPRIATE MATERIALS FOR INSTRUCTION IN READING¹

The purpose of this chapter is to recommend the types of materials which seem most likely to facilitate the accomplishment of the purposes set up in the other sections of this *Yearbook*. Part One deals with the general requirements which should be met by reading materials. Part Two makes more specific recommendations for each of the periods into which instruction in reading is divided.

PART I

GENERAL CONSIDERATIONS TO BE KEPT IN MIND IN SELECTING MATERIALS FOR THE COURSE OF STUDY IN READING

These considerations will be discussed under three headings:

1. The materials needed for recreatory reading. II. The materials

¹ Acknowledgment is gladly given to the various book companies, public school supervisors, librarians and teachers of education who assisted in the preparation of the list of books in this chapter. Special acknowledgment is given to Maude McBroom, Mabel Snedaker, Elizabeth Luzmoor, Ruth Moscrip, Wilma Garnett, Elsie Lorenz, Edna Wiese, Emma Watkins, Frances Hungerford, Hazel Prehm, and Bernice Orndorff of the Staff of the University Elementary School, State University of Iowa; to H. C. Hill, R. L. Lyman, Katherine Martin, Marjorie Hardy and Florence Williams of the University of Chicago; to Alma B. Caldwell, Assistant Superintendent, Cleveland, Ohio; to Mrs. Theresa Elmen-dorff and Miss Evans of the Buffalo Public Library; to Eleanor Troxell, State Normal School, Bloomsburg, Pa.; to Dr. W. L. Uhl of the University of Wisconsin; to W. W. Theisen, Assistant Superintendent of Schools at Milwaukee, Wisconsin; to Frances Dearborn and Hazel Aldrich Finegan, supervisors at Los Angeles; to Annie McCowen and Mrs. Ernest Horn, graduate students in education at the State University of Iowa; to Miss Eaton of the Lincoln School, Columbia University, and to the following kindergarten teachers and supervisors: Henrietta Harkin, Cedar Rapids, Iowa; Bessie Park, Des Moines, Iowa; Irene Hersch, Drake University, Des Moines; Miriam Hoover, Ft. Dodge, Iowa; Lura Whitney, Toledo, Ohio; Mrs. Mary Boomer Page, Chicago; Edna Baker, National Kindergarten and Elementary College, Chicago; Madeline Veverka, Los Angeles; Annie E. Moore, Columbia University; Ella Ruth Boyce, Pittsburgh; Lucy Wheelock, Wheelock Training School, Boston; Stella Wood, Minneapolis; Edwina Fallis, Denver; Genevieve Lyford, State Teachers College, Greeley, Colorado; Sophie Borup, St. Paul; Elizabeth Hall, Minneapolis; Stella McCarty, Goucher College, Baltimore; Helen Christianson, Los Angeles; Julia Wade Abbot, Philadelphia; Dorothy Hamilton, State Teachers College, Cedar Falls, Iowa; Lucy Gage, George Peabody College, Nashville, and Grace Brown, Cleveland School of Education, Cleveland; Mildred Gulian, Ohio University.

needed for silent reading of the work type. III. Those special pedagogical materials needed in assisting the child to acquire the various fundamental abilities in oral and silent reading.

I. MATERIALS NEEDED FOR RECREATORY READING

A. Types of School Situations in which Materials are Needed.

1. *For class exercises in oral reading and in other study of literary selections.* For these purposes, one or two complete sets of literary readers should be bought so that each child may have a copy. In addition, a smaller number of duplicate copies of several titles should be bought for use in small groups and in dramatization.

2. *For the entertainment of the class by one pupil.* For this purpose one book of a kind is sufficient. Under such a plan the reader has a motive for reading, and the audience has a motive for listening. The much-sought "audience attitude" is difficult, if not impossible, to get when members of the class who constitute the audience have in their hands the selection which a pupil is reading to them.

3. *For independent or free silent reading.* For this purpose it is highly desirable that single copies of a number of books be purchased. For the price of one supplementary set of books in duplicate it is possible to buy one copy of each of a number of valuable titles.

4. *For singing poems to which good music has been written.* In the primary grades, for example, there should be books containing the music to Mother Goose rhymes; in the intermediate grades, books containing the music to the most popular singing games and ballads; in the upper grades, books containing the music to the poems of such poets as Burns and Tennyson; and in the junior and senior high school, books containing the music to songs in Shakespeare's plays.

B. Criteria for Selecting Materials for Recreatory Reading.

The list of books for recreatory reading should meet several requirements, the most important of which are listed below. Some of these requirements apply to library lists; others to individual books.

1. *It should contain books of undoubted value.* The following classification, based upon the discussion elsewhere in this Yearbook,

may prove helpful in determining the value of a book in recreatory reading:

Types of Books Used in Reading

- a. Those which are true to fact but uninteresting except for purposes of special reference. Example: *The World Almanac*.
- b. Those which are true in the sense of reporting actual happenings, interesting, and excellently written. Parkman's *Jesuits* and Chapman's *Travels of Birds* are good illustrations of this type of book.
- c. Those which are true to life and interesting, even though they do not report what actually happened. The best types of poetry and of fiction satisfy these requirements.
- d. Those which pretend to be true to life or to fact, but are neither. Much of the fiction written for children is of this type.
- e. Those which make no pretense of being other than fanciful. Fairy stories, nonsense jingles, and wholesome humor are of this type.

It is obviously futile to apply the same standards in judging all of these types. Each has its appropriate standards. Books of type *d* have no place in the school library. Books of types *b* and *c* will constitute the bulk of the list to be used in recreatory reading. However, humor and nonsense should have a much larger place in grade lists than at present.

2. *Only such materials as are within reach of the child's imagination should be selected for a given grade.*

3. *The materials selected must appeal to the immediate interests of the child.* This does not mean that the child's likes should be substituted for literary worth as a criterion for selecting books. It means that from among books of value, those should be chosen which make the strongest appeal to the child. Beginnings have already been made in determining children's interests, in such investigations as those by Dunn, Jordan, Uhl, Knight, Mackintosh,

and Garnett. A detailed bibliography of these investigations is given on pages 173-175.

4. *There should be a wide range of selections.*

- a. *As to experiences.* Since one of the purposes of recreatory reading is to enrich experiences, it is desirable that books which are selected for a given grade should represent every type of wholesome experience within the range of the appreciation of the pupils of that grade. In making these experiences vital, every suitable literary type should be employed. School libraries are commonly deficient in short stories, in humor, and in well-written books in such fields as history, science, and industry, as well as in poetry which appeals to children.
- b. *As to moods to which the selection appeals.* Studies of children's choices seem to show that we should greatly increase the amount of humor and wholesome nonsense. Selections which are exciting should also be included in greater numbers than has been the custom. Children's great interest in literature of a patriotic nature gives a special opportunity to introduce books which show truthfully the struggles and sacrifices of their country in achievement of its ideals. However, this interest should not be exploited by 'palming off' on children selections of inferior worth.
- c. *As to countries and peoples.* By the end of Grade VI, each pupil should have read at least one selection, in translation, from each of the other great literatures, in addition to those from American and English literature. What is advocated here is not a survey course in world literature; it is the development of a broader insight into the experiences and aspirations of other people.
- d. *As to difficulty.* One of the best aids in providing for individual differences in reading ability is to have, in each grade library, books difficult enough to offer an adequate challenge to the most gifted pupil in the

room, and other books easy enough to be read with satisfaction by the poorest reader. If this requirement is met in selecting not only books for recreatory reading but also books for the work type of reading, an important step will have been taken in adapting the course of study to the needs of individuals.

5. *The illustrations should be good.* Criteria for judging the illustrations in children's books have never been definitely established but it seems helpful to ask the following questions:

- a. Do the illustrations have real art quality?
- b. Do the illustrations appropriately convey the thought expressed in the text?
- c. Are the illustrations of the type which children understand and appreciate?

The first question should call attention to such matters as arrangement on the page, good drawing, and harmony of line and color. In some books for young children the illustrations are too elaborate and are sprawled over the pages in a most disorderly fashion. Many of the illustrations show inferior drawing. Good line, good drawing, good color and composition as elements in illustrations undoubtedly contribute to setting up standards of good taste.

The second question is important in all book illustration. Children are particularly disappointed when the pictures do not tell the story properly.

The third question cannot be definitely answered until there has been more investigation. It has been fairly well established that little children do not care for pictures with complicated line and color. They prefer a flat pattern-like treatment. The child's taste is apparently different in this respect from that of the adult. The illustrations in many recent children's books have a greater appeal for adults than for children.

In the early grades two precautions are especially necessary in placing illustrations in relation to the text. First, they should be so placed that the thought stimulated by them will transfer most effectively to the text to which they refer. Second, they should not break up the lines on a page.

6. *The mechanical make-up of the book should be attractive and should, so far as possible, duplicate the make-up of books which people cherish for their libraries outside of school.* It is quite possible that there should be eliminated from all pages the clutter of pedagogical suggestions, almost always unnecessary and often positively harmful. If notes, glossaries, or explanations are necessary, let them be put in the back of the book. Such studies as that by Bamberger² make an important beginning in setting up standards of binding, size of page, etc.

There is a special need on the part of school people to demand strongly more attractive and more durable bindings. The lack of durability in most high-priced illustrated books for children is inexcusable. Compared with school texts equally well illustrated by artists of the same ability, these books are usually miserably bound. This is in spite of the fact that they cost, page for page, much more than class textbooks furnished to public schools. Books meant for very young children are especially deficient in durability. Many popular, but poorly bound books are now rebound in attractive and durable form by the H. R. Huntting Co., of Springfield, Mass., and sold at a very moderate increase over the price of the original bindings.

Many primers and first readers are at fault in the arrangement of lines on the page. All lines, except for paragraph or outline indentation, should begin the same distance from the left-hand margin of the page. With the exception of the last line in a paragraph, the lines should be approximately the same in length. We do not yet know the effect of breaking a phrase at the end of a line. It seems possible that this should be avoided whenever practicable, but certainly there is no excuse for the variegated designs which the lines make on the page in many books.

There are at present no data on children's reading which enable us to say with assurance that lines should be short rather than long, or that sentences should be artificially short rather than long. Until better data are obtained, it seems safer, in judging books for children, to be guided by the requirements of natural, effective, presentation.

² Bamberger, Florence E. *The Effect of Physical Make-up of a Book Upon Children's Selections*. Johns Hopkins University Studies in Education, No. 4. Johns Hopkins University, Baltimore, Md., 1922.

II. MATERIALS NEEDED FOR THE WORK TYPE OF READING

This type of material should be differentiated as fully as possible from that classified as recreatory. Chapter I of this *Yearbook* shows the need for making this distinction.

It seems to follow logically that since materials of the work type are to be used to develop ability to work with books, these materials must duplicate the essential characteristics of the various types of books with which people work, and should aid in developing the most important abilities needed in such work. The four classes of abilities needed in working with books are: the ability to locate information bearing on the reader's purpose; the ability to comprehend, appraise, and select information with reference to that purpose; the ability to organize material read under the guidance of that purpose; and the ability to decide what should be remembered, and to memorize this essential material.

A. MINIMAL EQUIPMENT REQUIREMENTS FOR DEVELOPING THESE ABILITIES

1. *For class exercises in teaching children how to work with books.* One or two complete sets of silent readers of the work type should be bought so that each child may have a copy. In addition, a few copies each of a number of different silent readers or of supplementary informational books should be supplied for work with small groups.

2. *For use in carrying over into other subjects the skills and attitudes developed through the use of silent-reading textbooks.* The minimal requirement for an elementary school in this respect is an adequate number of dictionaries, at least one child's encyclopedia such as Compton's, plenty of special reference books with good indexes and good tables of contents, and general references such as the *World Almanac*. These materials are necessarily factual in nature, as contrasted with those used in recreatory reading. As the pupil advances through the grades, he should be confronted with progressively more difficult materials which have all the common and essential forms of the various types of books with which one works. In any grade where class drill is recommended, as, for example, dictionary drill in Grade IV and beyond, there should be

enough books so that each child in the practice group may have a copy.

Too much emphasis cannot be placed upon the importance of an adequate supply of varied reference materials. Such books should be used, not merely in connection with silent-reading periods, but also in the study of other subjects. The use of many books aids the development of all the four types of abilities which are listed above. It trains the child in finding and assembling books which bear on his purposes. The use of a variety of references is one of the best devices to break down the habit of mere mechanical reading of words. A variety of books is also necessary for a complete training in ability to organize. After a student has been taught to organize the thought in a single selection, he must have training in assembling data from a variety of books. Assignments to many sources of information are necessary to avoid mere rote memorizing and to develop the ability of intelligent selective memorizing.

As will be shown elsewhere, each classroom needs not merely complete sets of these supplementary books of an informational nature, but also a considerable number of individual copies of books which deal with special phases of the work in such studies as history, geography, nature study, and hygiene.

B. CRITERIA FOR SELECTING READING MATERIAL OF THE WORK TYPE

One of the most important results of experiments in silent reading has been to show how textbooks for children can be improved. Many times, when children are tested on their ability to comprehend a given selection, one is left in doubt as to whether to charge the low comprehension score against poor reading ability on the part of the pupils or against poor writing ability on the part of the author of the selection. Textbooks in geography and history are often so abstract and barren of detail that no child can be expected to understand them. Direct and indirect experimental results seem to lead to the following conclusions:

1. *While it is impossible to overemphasize the teaching value of authentic narrative and incident, it is not easy to justify books in which the story is a mere artificial vehicle for teaching facts. Uncle Robert's Geography is an example of the improper use of the story form. Such a presentation is somewhat insincere. And experiments*

uniformly seem to show that this device is detrimental, not only to the comprehension of what is read, but also to the formation of right attitudes toward work. Often the story form covers up a conscious or unconscious deficiency in scholarship on the part of the author. Certainly the form and requirements of story telling are not conducive to giving full and critical attention to accuracy in the presentation of facts. It is no wonder that, in reading such books, children do not easily distinguish fact from fiction. Moreover, they seem to expect a certain amount of padding and read accordingly. It is true that there are a few very useful books which use this method of presenting facts. A good example is Jameson's *The Flame Fiend*. For the most part such books are good in spite of the story presentation, not because of it. Burgess' *Animal Stories* is an example of books which are valuable in interesting children in nature, in spite of the unfortunate way in which human conversation and motives are attributed to the animal characters.

2. *Unnecessary elaboration, in order to gain what is supposed to be 'style,' is almost certain to detract from the comprehension of what is read.*

3. *The vocabulary of a selection plays a very important part in determining how accurately that selection is comprehended.*³ Only a small proportion of the words in a selection can be unknown without interfering seriously with the comprehension of that selection. By an unknown word is meant not one which the child has not seen in print, but rather one whose meaning he does not know even when the word is spoken to him. When a child comes upon a word he knows when spoken, but which he has not seen in print, he will no doubt hesitate; but after the second period of reading instruction, as described in Chapter III, he should be able to identify the word from its context and from his ability in phonetic analysis.

In the case of words which are in the child's spoken vocabulary but which have not been read by him before, we do not have data which show either the number of such words which should be introduced per page or the amount or distribution of repetition which the word should have. Textbook appraisals have often proceeded on

³ Hilliard, G. H. *Probable Types of Difficulties Underlying Low Scores on Comprehension Tests*. University of Iowa Studies in Education, Vol. II, No. 6, 1924.

the theory that the fewer such words per page and the greater the number of repetitions on succeeding pages, the higher should be the rating which a book receives. This is wholly unwarranted. To construct a textbook after such a fashion inevitably leads to bareness and formality. Until experimental conclusions indicate otherwise, it is much safer to present interesting and vital experiences or information in a simple way, keeping well within the vocabulary which a child uses and leaving the matter of the repetition of words to the requirements of good writing.

The case of words which have neither been seen nor heard before presents a very different problem. Studies by Pressey⁴ and others show that the proportion of technical words is sometimes quite large and that this factor constitutes a significant difficulty in reading.

Although the difficulty of the vocabulary of a selection can be determined only by direct experiment in which children read the selection, an approximate difficulty can be obtained by comparing its vocabulary with that of the children of the grade for which the book is intended. Unfortunately, we do not have adequate counts of children's vocabularies, except for pupils in the kindergarten and first grade. The data from these counts are invaluable to those who are preparing material to be read by children in the primary grades, as well as for appraising the vocabulary of such books as are meant to be read in those grades.

The amount of technical vocabulary which a book contains can be obtained, in a rough way, by comparing the vocabulary of the book with that of the Thorndike word list. However, in making such a comparison, it must be kept in mind that the Thorndike list is heavily weighted with classical literary words. Many words commonly understood by children are not found in this list. Among such words are *gasoline* and *movie*.

4. *The paragraphing of the ordinary textbook for children is exceedingly poor.* It rarely conforms to the idea that a single unit of convenient size should be presented in well organized form in one paragraph.

5. *Textbooks should contain not only well written, valuable information, but also concrete help and sound advice to guide pupils*

⁴ Pressey, Luella C. *School and Society*, Vol. 29 (July 19, 1924), pp. 91-96.

in study. This help will be most effective when it is tied up with specific lessons. While such aid will undoubtedly increase the efficiency with which each lesson is mastered, it should be prepared by the author with an end in view which is even more important. Out of this immediate application, day by day, should come an increased interest in high standards of accomplishment and better methods of work in the study of other books of the same general type.

6. *As a general practice, both teachers and pupils should be led to choose work-type books which are written by those who are authorities in the field which the book covers.* Among such books are Chapman's *The Travels of Birds* and Carter's *Horses of the World*.

There should be not only books which will aid in the study of the various subjects in the school, but also those which contain material not usually found in any subject in the course of study. Such books are those on thrift, manners, fire prevention, and forestry.

7. *Other requirements for books of the work type.* The mechanical requirements set up for appraising books of the recreatory type will, in the main, hold for books of the work type. It is especially necessary that they contain proper indexes and tables of contents. It is doubtful whether most informational books written for use in the first six grades are sufficiently illustrated, when measured either by the number or by the quality of the illustrations. Books are constantly improving, however, in the degree to which they meet this requirement. Especially to be recommended is the skilful use which some of our modern books make of charts and diagrams.

III. TYPES OF PEDAGOGICAL EQUIPMENT NEEDED IN ASSISTING THE CHILD TO ACQUIRE THE VARIOUS FUNDAMENTAL PROCESSES OF ORAL AND SILENT READING

Under this heading would be classified phonetic charts and cards, rapid exposure exercises, especially devised seat exercises, special oral reading exercises such as those described in Chapter IX, and the method primer.

Silent reading textbooks may be classified both under pedagogical materials and under work-type materials. They contain exercises for the development of silent reading abilities. They also should contain valuable and interesting information, and should constitute

the pupil's textbook on how to study. Primers and many so-called method readers may be classed both as recreatory materials and also as pedagogical materials.

Important and necessary as are these various pedagogical aids, they must be kept in proper relation to the books which are to be read for recreation and to those with which the pupils work in connection with the study of other school subjects. Their purpose is to develop abilities to the point where they can be carried over into such reading as is done orally and silently for recreation, or, on the other hand, into the study of all lessons in which the work type of reading is involved.

In addition to this equipment for use by and with the pupils, the teacher needs better information concerning the interest and capacity of children in this period of development. There has been too much naive assumption as to the nature of children's conscious interests and abilities in response to the great variety of situations which confront them in life outside the school. Studies of such interests and abilities are now under way, but with a single exception the results are not available for publication in this *Yearbook*. That exception is found in the case of the spoken vocabulary of pre-school, kindergarten, and first-grade children. The words most frequently found in the spoken vocabulary of these children are given on pages 186-193.

In this discussion, no attempt has been made to give each point space according to its importance. Rather, the committee has felt free to pass briefly over statements which seem obvious or which are commonly accepted, in order to allow space for a more detailed discussion of points which seemed to need greater emphasis.

PART II

RECOMMENDATIONS BY PERIODS

Part Two contains, first, a general discussion of the policy of the committee in making specific recommendations; second, a bibliography of references on the selection of books for children; third, a discussion of the material requirements for each of the periods outlined in Chapter III, together with specific recommendations of both the recreatory and work type of materials.

GENERAL POLICY IN MAKING RECOMMENDATIONS

It is the general policy of the committee not to recommend either basic texts or special commercial pedagogical materials. This holds both for the recreatory and for the work type of material. These recommendations are withheld in the belief that if all commonly used textbooks and other pedagogical materials were recommended, the list would be meaningless. On the other hand, to select from among these materials would require an amount of scientific data which the committee does not possess. The committee has, however, set up certain standards which such books and materials should meet.

Specific recommendations are made for books which would ordinarily be classed as supplementary. This includes books of both the recreatory and work types. The list has purposely been kept small. Those who desire more extensive recommendations are referred to the lists contained in the bibliography which follows.

BIBLIOGRAPHY OF BOOKS AND ARTICLES ON SELECTING
READING MATERIALS FOR CHILDRENI. REFERENCES DEALING WITH THE GENERAL PROBLEM OF SELECTION OF
BOOKS FOR CHILDREN

The most valuable references are starred (*).

- Baker, Franklin T. "An Educational Bogey." *Illinois Bulletin*, May 1, 1912.
- Bamsberger, Velda C. "Standard Requirements for Memorizing Literary Material." *University Bulletin* 3, University of Illinois, Bureau of Educ. Research.
- Barnes, Walter. *The Children's Poets*. New York: World Book Co., 1924.
- Bobbitt, John F. *The Curriculum*: "Reading as a Leisure Occupation," Ch. 17. Boston: Houghton Mifflin Co., 1918.
- Carpenter, G. R., Baker, F. T., Scott, F. N. *Teaching of English in the Elementary and Secondary School*. New York: Longmans Green and Co.
- Chubb, Percival. *The Teaching of English in the Elementary and Secondary School*. New York: Macmillan, 1903.
- Crothers, S. M. *The Gentle Reader*. Boston: Houghton Mifflin, 1903.
- Crow, C. S. *Evaluation of English Literature in High School*. Teachers College, Columbia University Contributions to Education.
- *Curry and Clippinger. *Children's Literature*. Chicago: Rand McNally.
- Dunn, F. W. "Interest Factors in Primary Reading Material." Doctor's thesis in education, Teachers College, Columbia University, 1920.
- *Eastman, Max. *The Enjoyment of Poetry*. New York: Scribners, 1913.

- Field, W. T. *Fingerposts to Children's Reading*. Chicago: McClurg, 1907.
- Garnett, W. F. "Children's Choices in Prose, Grade IV." Summary in *Journal of Education*, June 5, 1924. Boston.
- Henderson. Report of State Dept. of Public Instruction, Albany, N. Y.: 1897.
- Hosic, J. F. *The Elementary Course in English*. Chicago: University of Chicago Press, 1911.
- *Hosic, J. F. *Empirical Studies in School Reading with Special Reference to the Evaluation of Literary Reading Books*. New York: Columbia University, Teachers College, Contributions to Education, 1921.
- Hunt, C. W. *What Shall We Read to the Children*. Boston: Houghton Mifflin Co., 1915.
- Jordan, A. M. *Children's Interests in Reading*. New York: Teachers College, Columbia University, 1921.
- Kirkpatrick, E. A. "The Problem of Children's Reading." *Northwestern Monthly*, Vols. 8 and 9.
- Knight, F. B. and Franzen, R. H. *Textbook Selection*. Baltimore: Warwick and York, 1922, Chapter II.
- Kready, Laura. *A Study of Fairy Tales*. Boston: Houghton Mifflin, 1916.
- Lamborn, E. A. Greening. *The Rudiments of Criticism*. Oxford, England: Clarendon Press, 1916.
- *Leonard, S. A. *Essential Principles of Teaching Reading and Literature*. Philadelphia; J. B. Lippincott, 1922.
- Lowe, Orton. *Literature for Children*. New York: Macmillan.
- Mackintosh, H. K. "Study of Children's Choices in Poetry, Grade V." Unpublished master's thesis, College of Education, State University of Iowa, 1924. Summaried in *The Elementary English Review*, June, 1924, Vol. I, No. 5, Detroit, Michigan.
- Moore, A. C. *New Roads to Childhood*, New York: G. H. Doran Co., 1923.
- Moore, A. C. *Roads to Childhood*, New York: G. H. Doran Co., 1920.
- Moore, A. C. "Children's Reading and Fall Books." *Bookman*, November 1920.
- Olcott, F. J. *The Children's Reading*. Boston: Houghton Mifflin Co., 1922.
- Pickett, L. H., and Boren, D. *Early Childhood Education*. Yonkers, N. Y.: World Book Co., 1923.
- Quiller-Couch, A. *On the Art of Reading*. New York: Putnam, 1920.
- Salisbury, E. I. *An Activity Curriculum for Kindergarten and Primary Grades*. San Francisco: Harr Wagner Pub. Co., 1924.
- Selected List of Poetry and Stories for Children in Kindergarten, First and Second Grades*. 40 High St., Springfield, Mass.: International Kindergarten Union, 1918-1920.
- Shedlock, M. *Art of the Story Teller*. London: J. Murray, 1915.
- Smith, F. O., "Pupils' Voluntary Reading." *Ped. Sem.*, Vol. 14.
- Stone, C. R. *Silent and Oral Reading*. Boston: Houghton Mifflin, 1922.
- Stratton, Clarence. *The Teaching of English in the High School*. New York: Harcourt, Brace, Howe.

- Thomas, C. S. *Teaching of English in Secondary Schools*. Boston: Houghton Mifflin Co., 1917.
- Tomkinson, W. *Teaching of English: A New Approach*. Oxford, England: Clarendon Press, 1921.
- *Uhl, W. L. *The Materials of Reading*. Chicago: Silver, Burdett & Co., 1924.
- Vostrovsky, Clara. "Children's Taste in Reading." *Ped. Sem.*, Vol. 6, pp. 523-538.
- Wilkinson, Marguerite O. *New Voices*. New York: Macmillan, 1919.
- Williams, Grace C. *The Little Bookshelf*. Chicago: Rand McNally, 1924.
- Yoakum, G. A. "Course of Study in English Literature for the Elementary School." Master's thesis, College of Education, State University of Iowa, 1919.

II. AVAILABLE LISTS OF BOOKS FOR CHILDREN

- A Shelf of Books for a One-Room School*. Chicago: American Library Association, 1922.
- **American Library Association Book List*. Chicago: Issued monthly by the American Library Association. (A selected list is issued annually.)
- *Baker, F. T. "Bibliography of Children's Reading." *Teachers College Record*, Vol. 9. (1908), Nos. 1 and 2.
- Bailey, C. S. *For the Story Teller*. Springfield, Mass.: Milton Bradley Co., 1913.
- Bamsberger, Velda C. *Standard Requirements for Memorizing Literary Material*. University Bulletin No. 3, University of Illinois, Bureau of Educational Research.
- "Books to Grow On." Graded list of 25 books each month in *Journ. of Natl. Educ. Assn.* (beginning in February, 1924).
- De La Mare, Walter, "Books for Children." *Literary Review*, *New York Evening Post*. (Nov. 10, 1923.)
- De Mille, A. B. *Books for Boys*. Natl. Education Assn., 1922.
- Fenton, J. C., Ruch, G. M., and Terman, L. M. *Suggestions for Children's Reading with Special Reference to the Interests of Gifted Children*. Palo Alto: Stanford Univ. Press, 1921.
- Forbush, W. B. *A Manual of Stories*. Philadelphia: American Institute of Child Life.
- *Eaton, Anne T. *Books for Vacation Reading*. New York: Lincoln School, Columbia University.
- Gift Books for Children's Book Shelves*. Chicago: American Library Assn., 1922.
- **Graded List of Books for Children*. Prepared by Elem. School Library Committee of the N. E. A. Chicago: American Library Association, 1922.
- Graded List*. 1201 Tenth St., N. W., Washington, D. C. National Congress of Mothers.

- *Hassler and Scott. *Graded List of Stories to Tell and Read Aloud*. Chicago: American Library Assn., 1923.
- Herzberg, Max J. *The World of Books*. Boston: The Palmer Company, 1922.
- Horton, Marion. *Viewpoints in Essays*. Chicago: American Library Association, 1920.
- Hosie, J. F. *Elementary Course in English*. Chicago: University of Chicago Press, 1908.
- *Leonard, S. A. *Reading for Realization of Varied Experience*. Chicago: J. B. Lippincott, 1922.
- Mahoney, J. J. *Standards in English*. Yonkers on Hudson, New York: World Book Co., 1919.
- Moses, M. J. "Royal Books for Children." *Outlook*, November, 1923.
- One Thousand Good Books for Children*. Washington, D. C.: U. S. Bureau of Education.
- Partridge, E. N., and Partridge, G. E. *Story Telling in School and Home*. New York: Sturgis Co., 1913.
- Pickett, L. H., and Boren, D. *Early Childhood Education*. Yonkers on Hudson, New York: World Book Co., 1923.
- Powers, L. St. John, "Beautifully Illustrated Editions of Children's Books." *Children's Royal*, Oct. and Nov., 1923.
- Rathbone, J. A. *Viewpoints in Travel*. (Graded list.) Chicago: American Library Association, 1919.
- Reading List for First and Second Grades*. Des Moines: Iowa Library Commission.
- Salisbury, E. I. *An Activity Curriculum for Kindergarten and Primary Grades*. San Francisco: Harr Wagner Pub. Co., 1924.
- Shedlock, M. *The Art of the Story Teller*. London: J. Murray, 1915.
- Selected List of Poetry and Stories for Children in Kindergarten, First and Second Grades*. International Kindergarten Union, 1918-1920.
- Stevens, D. H. *The Home Guide to Good Reading*. Chicago: F. J. Drake & Co., 1920.
- Stone, C. R. *Silent and Oral Reading*. Boston: Houghton Mifflin Co., 1922, pp. 93-97.
- Tappert, K. *Viewpoints in Biography*. Chicago: American Library Assn., 1920.
- Uhl, W. L. *Scientific Determination of the Content of the Elementary School Course in Reading*. University of Wisconsin, 1921.
- Vostrovsky, Clara. "Children's Taste in Reading." *Ped. Sem.*, Vol. 6, pp. 523-538.

III. REFERENCES DEALING WITH THE LOCATION OF SPECIFIC POEMS AND STORIES FOR CHILDREN

- Eastman, Mary H. *Index to Fairy Tales*. Boston: Boston Book Co., 1915.
- Firkins, Ina T. *Index to Short Stories*. White Plains, New York: W. H. Wilson Co., 1915.

Granger, Edith (Ed.) *Index to Poetry and Recitations*. A. C. McClurg Co., 1918.

SPECIFIC RECOMMENDATIONS BY PERIODS

The following recommendations are grouped according to the periods outlined in Chapter III of this *Yearbook*. These periods are briefly:

First period. "The period of instruction and experience which is prerequisite to reading." (Kindergarten and frequently the early part of the first grade.)

Second period. "Instruction to introduce pupils to reading as a thought-getting process and to develop considerable independence in word recognition." (Following Period 1 in Grade I and sometimes extending into Grade II.)

Third period. "Vigorous emphasis on the fundamental attitudes, habits and associations." (Grades II and III.)

Fourth period. "Period of wide reading." (Grades IV, V, and VI.)

Fifth period. "The period of refining reading and study habits." (Junior and senior high schools.)

THE FIRST PERIOD

(The kindergarten and frequently the early part of the first grade)

Much of the equipment needed during this period is scarcely reading matter at all. It consists of those materials which are inherent in a concrete and enriched course of study and which are necessary to the solution of vital problems which arise from thought-provoking situations. Among such problems are those arising in churning butter, in caring for a pet, or in drying fruit. Nature study, games, story telling, drawing, bulletin boards, stereographs, and excursions also stimulate thinking and help to develop the language abilities which are basic to a successful introduction to the reading processes.

In addition to these materials for use by the pupils, the teacher needs to have a list of the words which ought to be in the child's spoken vocabulary and accurately understood before the child actually begins to read. This does not mean that formal word or vocabulary drill should be given; such a list is to be used merely as a guide to the teacher in the study of the development of vocabulary. These words are given on pages 186-193.

I. MATERIALS NEEDED FOR RECREATORY READING

The books for the first period were selected from a list rated by twenty-four kindergartners and children's librarians. Not a single book received uniformity of rating. In fact, in all but a very few cases, a book was rated excellent by one person and poor by another. These differences of opinion point to the need of experimentation as the only sure basis for choosing children's books. However, until such experiments are completed, a summary of judgments seems to afford the best basis for making a recommendation.

A. Books Containing Literature to be Read or Told to the Children by the Teacher. Books which are marked with a star are illustrated and can be placed in the hands of children as picture books.

1. Rhymes and Poems

a. Mother Goose editions. (The usual manner of writing the bibliography is changed here to this order: Illustrator. Name of Book, Editor, City: Publisher, Date.)

- * (1) Brooke, L. Leslie. *Oranges and Lemons, and Other Nursery Songs*. New York: Frederick Warne & Co., 1917. Also in the same edition are *The Man in the Moon and other Nursery Songs* (1917), *Little Bo-Peep and Other Nursery Rhymes* (1922), *This Little Pig Went to Market and Other Nursery Rhymes* (1922). (These books have full-page, colored illustrations, stiff paper covers, and sell at \$.75 each. Combinations of these small editions sell at \$2.00. A one-volume edition sells at \$3.00.)
- * (2) Caldecott, Ralph. *The House that Jack Built*. New York: Frederick Warne & Co., 1907. Also in the same edition are *Sing a Song of Sixpence* (1902), *Queen of Hearts* (1902), *Hey Diddle Diddle* and *Baby Bunting* (1902), *Ride a Cock Horse* and *A Farmer Went Trotting* (1902). (These editions in limp covers sell at \$.60 each. Bound in four volumes with other material, they sell at \$2.25 each. Bound in two volumes, they sell at \$4.00 each.)
- * (3) Crane, Walter. *Old Mother Hubbard Picture Book*. New York: Dodd, Mead & Co., 1914. (Also contains *The Three Bears*.)
- * (4) Falls, A. B. *Mother Goose*. New York and Garden City: Doubleday, Page & Co., 1924.
- * (5) Folkard, Charles. *Mother Goose's Nursery Rhymes*. Edited by L. Edna Walter. London, W. I., Soho Square: A. & C. Black, Ltd., 1924. (Many illustrations, both large and small.)

- * (6) Greenaway, Kate. *Mother Goose*. New York: Frederick Warne & Co. (A small edition, 4½x6½.)
- * (7) Richardson, Frederick. *Mother Goose*. Edited by Eulalie Osgood Grover. Chicago and New York: P. F. Volland Co. 1915. (There are two editions, one \$1.35 and the other \$3.00.)
- * (8) Robinson, Charles. *The Big Book of Nursery Rhymes*. Edited by Walter Jerrold, New York: E. P. Dutton & Co., 1903. (A very complete and carefully edited Mother Goose. Book is large for kindergarten children to handle easily.)
- * (9) Smith, Jessie Wilcox. *Mother Goose*. New York: Dodd, Mead & Co., 1918. (Carefully edited. There is a large and a small edition.)
- * (10) Wright, Blanche Fisher. *The Real Mother Goose*. Chicago and New York: Rand McNally Co., 1919. (Selections of "The Real Mother Goose" are bound into smaller volumes. These volumes may be purchased rebound from the H. R. Huntting Co.)
- * (11) Wilson, Edith R. *Everychild's Mother Goose*. Edited by Carolyn Wells. Music by Sidney Homer. New York: The Macmillan Co., 1919. (This book is included here because of the excellent selection of rhymes by Carolyn Wells.)

b. Other rhymes and poems.

- * (1) Adelborg, Otilia. *Clean Peter and the Children of Grub-bylea*. New York: Longmans, Green & Co., 1901.
- * (2) Burgess, Gelett. *The Goop Directory*. New York: Frederick A. Stokes Co., 1913.
- * (3) *Chinese Mother Goose Rhymes*. Translated and illustrated by Isaac Headland. New York: Fleming R. Revell Co., 1900.
- * (4) De La Mare, Walter. *A Child's Day*. New York: Henry Holt & Co., 1923.
- * (5) Lear, Edward. *Nonsense Books*. Boston: Little, Brown & Co., 1918.
- (6) Fyleman, Rose. *Fairies and Chimneys*. New York: George H. Doran Co., 1920.
- * (7) Greenaway, Kate. *Marigold Garden and Under the Window*. New York: Frederick Warne & Co., 1910. (Reprints.)
- * (8) Lofting, Hugh. *Porridge Poetry*. New York: Frederick A. Stokes & Co., 1924.
- * (9) Jackson, Leroy. *The Peter Patter Book*. Illustrated by Blanche Fisher Wright. Chicago and New York: Rand McNally & Co., 1918.

- * (10) *Johnny Crow's Garden*. Illustrated by L. Leslie Brooke. New York: Frederick Warne & Co., 1904.
- * (11) Miller, Olive Beaupré. *In the Nursery of My Bookhouse*. Vol. 1. Chicago: The Book House for Children, 1920. (Nicely-illustrated and well-edited, but one of an expensive set of books.)
- * (12) Moore, Clement. *The Night Before Christmas*. New York: Samuel Gabriel Sons & Co.
- (13) Rossetti, Christina. *Sing Song*. New York: The Macmillan Co.
- * (14) Stevenson, Robert Louis. *A Child's Garden of Verses*. Illustrated by Florence Edith Storer. New York: Charles Scribner's Sons, 1920. (Charles Scribner's Sons have some twenty-five poems not published elsewhere.)
- (15) Wiggin, Kate Douglas, and Smith, Nora Archibald. *The Posy Ring*. New York: Doubleday, Page & Co., 1903.
- c. Poems and rhymes set to music. (To be used in both the first and second periods.)
 - * (1) *Old Dutch Nursery Rhymes*. English version by R. H. Elkin. Original tunes harmonized by J. Roentgen. Illustrated by H. Willebeek Le Mair. Philadelphia: David McKay, 1917.
 - * (2) *Little Songs of Long Ago*. Harmonized by Alfred Moffat. Illustrated by H. Willebeek Le Mair. Philadelphia: David McKay, 1911. (Music excellent for little children.)
 - * (3) *Our Old Nursery Rhymes*. Harmonized by Alfred Moffat. Illustrated by H. Willebeek Le Mair. Philadelphia: David McKay, 1911. (Music excellent for little children.)
 - * (4) *Some Nursery Rhymes of Belgium, France and Russia*. Selected and rhymed into English by L. Edna Walter. Belgian airs harmonized by Lucy Broadwood. London, Soho Square, W.: A. & C. Black, 1917. The rhymes from each country are illustrated by an artist of that country. (French rhymes are illustrated by Boutet de Monvel.)
 - * (5) *Songs from Mother Goose*. Music by Sidney Homer. Illustrated by Maginel Wright Enright. New York: The Macmillan Co., 1920.

2. Stores to be Read or Told to the Children

- * a. Bannerman, Helen. *The Story of Little Black Sambo*. New York: Frederick A. Stokes Co., 1900.
- b. Bryant, Sara Cone. *Best Stories to Tell to Children*. New York: Houghton Mifflin Co., 1912.

- *c. Carrick, Valery. *Picture Tales from the Russian*. Translated by Nevill Forbes. New York: Frederick A. Stokes Co.
- *d. Clark, Margery. *The Poppy Seed Cakes*. Illustrated by Maud and Miska Petersham. Garden City and New York: Doubleday, Page Co., 1924.
- *e. *Cock, the Mouse, and the Little Red Hen, The*. Retold by Félicité Lefèvre. Illustrated by Tony Sarg. Philadelphia: George W. Jacobs & Co.
- *f. Gruelle, Johnny. *Raggedy Ann*. Illustrated by Johnny Gruelle. Chicago and New York: P. F. Volland Co., 1918.
- g. Keyes, Angela. *Stories and Story Telling*. New York: D. Appleton & Co., 1911.
- *h. Lofting, Hugh. *The Story of Mrs. Tubbs*. Illustrated by Hugh Lofting. New York: Frederick A. Stokes Co., 1923.
- *i. Miller, Olive Beaupre. *In the Nursery of My Bookhouse*. Volume One. Chicago: The Book House for Children, 1920. (Well-illustrated, selected, and edited, but one of an expensive set.)
- *j. Mitchell, Lucy Sprague. *Here and Now Story Book*. Illustrated by Hendrick Willem Van Loon. New York: E. P. Dutton & Co., 1921. (For the three-year olds.)
- *k. O'Grady and Throop. *Teacher's Story Telling Book*. Chicago: Rand McNally & Co.
- *l. *Old, Old Tales Retold*. Illustrated by Frederick Richardson. Chicago and New York: P. F. Volland Co., 1922.
- *m. Potter, Beatrix. *The Tale of Peter Rabbit*. New York: Samuel Gabriel Sons & Co. (Large pictures. Linenette book.) Also New York: Frederick Warne & Co. (Original small volume.)
- n. Shedlock, Marie. *The Art of the Story Teller*. New York: D. Appleton & Co. (Contains both a source book for teacher and stories for children; also a suggestive list of stories.)
- *o. *Story of the Three Bears, The*. Illustrated by L. Leslie Brooke. New York: Frederick Warne & Co. (Paper edition, \$.75.)
- *p. *Story of the Three Little Pigs, The*. Illustrated by L. Leslie Brooke. New York: Frederick Warne & Co., 1905. (Paper edition, \$.75. These two tales, "o" and "p," with several others, bound in cloth, \$3.00.)

B. Picture Books to be Placed in the Hands of the Children. This list can be used in both first and second periods. Books marked with a star in the preceding lists may also be used for this purpose. (Some of these

books contain simple rhymes, poems, or stories which may be read by the brighter children who have made a beginning in reading. It is to be remembered that the following books are in this list primarily because of the pictures not the reading content. One of the most satisfactory sources of pictures in the kindergarten is the home-made scrap book.)

1. Byron, May. *The Little Small Red Hen*. New York: Hodder & Stoughton.
2. Carter, William Harding. *The Story of the Horse*. Illustrated by Herbert Miner. Washington, D. C.: National Geographic Society.
3. Deming, Therese. *Animal Folk of Wood and Plain*. Illustrated by Edwin Deming. New York: Frederick A. Stokes Co., 1916.
4. Deming, Therese. *Indian Child Life*. Illustrated by Edwin Deming. New York: Frederick A. Stokes Co., 1899.
5. Deming, Therese. *American Animal Life*. Illustrated by Edwin Deming. New York: Frederick A. Stokes Co., 1916.
6. Fuertes, Louis Agassiz, and others. *The Book of Dogs*. Washington, D. C.: National Geographic Society, 1919.
7. Henshaw, Henry. *Book of Birds*. Illustrated by Louis Agassiz Fuertes. Washington, D. C.: National Geographic Society.
8. Kaberry, Charles. *The Book of Baby Dogs*. Illustrated by E. J. Detmold. New York: Hodder and Stoughton.
9. *My Book of Birds*. New York: Samuel Gabriel Sons & Co.
10. *Nature Magazine*. Washington, D. C.: American Nature Association.
11. Nelson, Edward W., *Wild Animals of North America*. Illustrated by Louis Agassiz Fuertes. Washington, D. C.: National Geographic Society.
12. *The Railway Book*. New York: Samuel Gabriel Sons & Co., 1913. (Linenette book.)
13. Smith, E. Boyd. *The Chicken World*. Also illustrated by E. Boyd Smith. New York: G. P. Putnam's Sons.
14. Smith, E. Boyd. *The Circus*. Illustrated by E. Boyd Smith. New York: Frederick A. Stokes Co.
15. Smith, E. Boyd. *The Country Book*. New York: Frederick A. Stokes Co., 1924.
16. Smith, E. Boyd. *The Farm Book*. New York: Houghton Mifflin Co., 1910. Also by the same author and publisher, *The Railroad Book* (1913) and *The Seashore Book*.
17. *Story of the Ship, The*. Illustrated by Gordon Grant. New York: McLoughlin Bros., Inc., 1919.

II. ACTIVITIES THAT PREPARE FOR READING BY ENRICHING THE CHILD'S EXPERIENCES

A. Projects, examples of:

1. Making valentines
2. Making Christmas gifts
3. Making a jack-o'-lantern
4. Making a snowman from snow
5. Collecting frog eggs and watching the tadpoles change into frogs.
6. Canning
7. Making apple jelly
8. Making biscuits
9. Weaving large rugs
10. Churning butter
11. Making a bird bath
12. Building a terrarium
13. Filling an aquarium
14. Caring for hen and chickens
15. Making a garden
16. Preparing for a party

B. Nature study activities

C. Games

D. Excursions

E. Hygiene lessons

F. Using stereopticon views

G. Bulletin boards

The following books will help the teacher make such experiences vital:

Hill, Patty and others. *A Conduct Curriculum*. New York: Charles Scribner's Sons.

Parker, S. C., and Temple, Alice, *Unified Kindergarten and First-Grade Teaching*. Chicago: University of Chicago Press, 1924.

Salisbury, Ethel I. *An Activity Curriculum for the Kindergarten and the Primary Grades*. San Francisco: Harr Wagner, 1924.

THE SECOND PERIOD

(Here the object of instruction is "to introduce pupils to reading as a thought-getting process." This period follows period one in the first grade and sometimes extends into the second grade.)

I. MATERIALS NEEDED IN THE DEVELOPMENT OF INFORMAL LESSONS

A. Rich Experiences.

All the types of interesting, informal activities recommended in the first period as a preparation for reading are appropriate also for the second period. As pointed out in Chapter III, they constitute the basic approach to reading as a thought-getting process. They should by no means be discontinued even after children have begun to read in books. Throughout the second and even the third period, a considerable part of the reading should be tied up with such vital experiences. The following references give valuable suggestions as to how such activities may be made the basis of reading lessons:

Bonser, F. G., and Mossman, L. E. *Industrial Arts for Elementary Schools*. New York: Macmillan, 1923.

McCracken, T. C., and Lamb, H. E. *Occupational Information in the Elementary School*. New York: Houghton Mifflin, 1924.

Parker, S. C. *Types of Elementary Teaching and Learning*. Chicago: Ginn & Co., 1924., pp. 72-102.

Twentieth Yearbook, Part II of this Society. Bloomington, Ill.: Public School Pub. Co., 1920, pp. 153-172.

Watkins, Emma. *How to Teach Silent Reading to Beginners*. Philadelphia: J. B. Lippincott, 1924.

B. Materials Necessary for Recording the Lessons Which Are Developed from These Activities.

1. The hectograph used with long-hand or manuscript writing
2. The hectograph used with a large-type typewriter
3. A frame and special sets of large type with which the lesson can be set up by the teacher
4. Blackboard work, bulletins and cards. It is best, to print or use manuscript writing in preparing these charts rather than to use a printing outfit or gummed letters. Manuscript writing is much more rapid, as well as more satisfactory. A little practice will enable the teacher to prepare these charts very rapidly.⁵

⁵ Wise, Marjorie. *On the Technique of Manuscript Writing*. New York: Scribners, 1924.

II. THE PRIMER

It is desirable to delay the introduction of the primer until considerable facility has been developed in reading exercises of the type just described. Even when the primer has been introduced, it should be supplemented regularly by such informal procedures as are suggested in Chapters III and IV. Naturally, the more nearly the exercises in the method book can approach the thoughtful, informal procedure recommended there, the better and more desirable the book will be. One or two full sets of primers should be provided for each class. In addition, there should be a few copies each of a number of primers to use with children in groups. The standards which a primer should meet are:

- A. The book should deal with interesting experiences or story materials. There is no place for the barren "I see a man," "Can the man see me?" type of repetition.
- B. It is inexcusable for any method to be so prominent that it completely overshadows the thought of the selection.
- C. There should be a brief, simple, efficient manual.
- D. It is essential that the mechanical construction of the book be satisfactory.
- E. The vocabulary should meet two requirements: (1) It should be within the comprehension of the children who are to use it; and (2) it should contain the words of the greatest value to the child in his present and future reading.

We are fortunate in having fairly adequate data on the child's vocabulary at or below the first-grade level. These data were secured by combining the words from three investigations.

The first investigation, by Ernest Horn, consisted in combining the words reported in the individual study of the spoken vocabulary of eighty children varying in age from one to six years. These words, when arranged according to the age of the pupils, give some very interesting information regarding the growth of language abilities.

The second investigation was carried on under the direction of Mrs. Ernest Horn with the assistance of the kindergarten teachers of Iowa and Minneapolis. In this investigation about 200,000 run-

ning words of the spoken vocabulary of kindergarten children were analyzed.

The third investigation, by P. C. Packer, consisted of the tabulation of about 70,000 running words of the spoken vocabulary of first-grade children in Detroit. These vocabulary counts were taken from the records of what the children said in connection with the activities in the more informal school periods.

When the results of these three studies were put together, nearly 5,000 different words were found. However, many of these occurred but once or twice. In order to secure a more limited list which seemed likely to contain those words which the average first-grade child could be expected to know, all words were taken which occurred in three investigations with a total frequency of 15 or more, or in two of the three investigations with a total frequency of 25 or more. This list of words follows:

THE COMMONEST WORDS IN THE SPOKEN VOCABULARY OF CHILDREN UP TO AND INCLUDING SIX YEARS OF AGE

a	almost	any	ask
about	alone	anybody	asleep
across	along	anything	at
act	already	anyway	ate
aeroplane	always	apple	aunt
afraid	am	apples	auto
after	American	apron	automobile
afternoon	an	are	awake
again	and	aren't	away
ah	animal	around	awful
air	another	arm	
all	ant	as	
babies	bank	bed	beside
baby	barn	bedroom	best
back	basket	bee	bet
bad	bat	been	better
bag	bath	before	bicycle
bake	bathing	begin	big
ball	be	behind	bigger
balloon	bean	believe	bill
banana	bear	bell	bird
band	beat	belong	birds
bang	because	belt	birthday

biscuit	boil	bread	built
bit	bone	break	bump
bite	bonnet	breakfast	bunch
black	book	breast	bunny
blackbird	books	brick	bush
blanket	both	bridge	busy
blind	bother	bring	but
block	bottle	broke	butter
blocks	bottom	broken	butterfly
blood	bought	broom	button
blow	bounce	brother	buy
blue	bow	brought	by
bluebird	box	brown	bye
board	boy	brush	
boat	boys	buggy	
body	brake	building	
cabbage	cent	clean	cost
cage	center	clear	could
cake	cents	climb	couldn't
call	chain	clock	count
came	chair	close	country
camel	chairs	cloth	cousin
can	chalk	clothes	cover
candle	change	cloud	cow
candy	chase	coal	cows
can't	cheese	coat	cracker
cap	cherry	cocoa	cradle
cape	chicken	coffee	crawl
car	chickens	cold	crayon
card	child	collar	crazy
care	children	color	cream
careful	chimney	comb	crooked
carpet	chin	come	cross
carriage	chocolate	comes	cry
carry	choose	coming	cup
carrot	chop	company	cupboard
cars	Christmas	conductor	curtain
cart	church	cook	cut
cat	circle	cookie	cute
catch	circus	coop	
caught	clap	corn	
cause	class	corner	
daddy	dandelion	day	dear
dance	dandy	dead	deep

depot	dish	dolls	dress
desk	dishes	dolly	drink
did	do	done	drive
didn't	doctor	donkey	driver
die	does	don't	drop
died	doesn't	door	drum
different	dog	down	dry
dig	doing	downstairs	duck
dinner	doll	dozen	dust
dirt	dollar	draw	
dirty	dollars	drawer	
each	eggs	empty	every
ear	eight	end	everybody
early	either	engine	everyone
Easter	electric	enough	everything
easy	elephant	envelope	eyes
eat	eleven	even	
egg	else	ever	
face	field	flew	found
fair	fifteen	floor	four
fall	fight	flour	fresh
family	fill	flower	Friday
far	find	flowers	friend
farm	fine	fly	frog
farmer	finger	flying	from
fast	finish	fold	front
fat	fire	follow	fruit
father	fireman	food	full
feather	first	foot	fun
feed	fish	football	funny
feel	five	for	furniture
feet	fix	forget	
fell	fixed	forgot	
fence	flag	fork	
game	girls	gone	great
garage	give	good	green
garden	glad	good-bye	ground
gas	glass	goose	grow
gasoline	glasses	got	guess
gate	go	grandma	gum
gave	God	grapes	gun
get	goes	grass	
getting	going	gravy	
girl	gold	gray	

had	haven't	he's	horn
hair	hay	hide	horse
half	healthy	high	horses
hammer	hear	hill	hose
hand	heard	him	hot
handkerchief	Heaven	his	house
handle	heavy	hit	how
hands	hello	hoe	hundred
hang	help	hold	hungry
happy	hen	hole	hurry
hard	her	home	hurt
has	here	honey	husband
have	here's	hop	
I	I'll	inside	isn't
ice	I'm	into	it
ice cream	in	iron	it's
if	Indian	is	I've
Jack	jail	jump	just
Jack Frost	jelly		
keep	killed	kitty	knocked
kettle	kind	knee	know
key	kiss	knew	known
kick	kitchen	knife	
kill	kitten	knock	
ladder	learn	lettuce	look
lady	leave	light	looked
lake	leaves	like	looking
land	left	line	looks
last	leg	lion	lost
late	lemon	listen	lot
laugh	lesson	little	lots
lawn	let	live	love
lay	let's	lock	low
leaf	letter	long	lunch
machine	man	May	men
mad	many	may	merry-go-round
made	marble	me	middle
make	March	mean	might
makes	mark	meat	milk
making	match	medicine	mind
mamma	matter	meet	mine

minute	more	move	mustn't
miss	morning	Mr.	my
Monday	most	much	myself
money	mother	mud	
monkey	mouse	music	
moon	mouth	must	
nail	needle	night	not
name	neither	nightgown	nothing
napkin	nest	nine	now
naughty	never	no	number
near	new	nobody	nurse
nearly	next	noise	nut
neck	nice	none	
need	nickel	nose	
o'clock	once	or	our
of	one	orange	ours
off	ones	oranges	out
office	onions	other	outdoors
old	only	ouch	over
on	open	ought	own
pack	peanut	pin	pot
page	peas	pink	potato
pail	peep	pipe	potatoes
paint	pencil	pitcher	pound
pair	penny	place	pour
pan	people	plant	powder
papa	piano	plate	pretty
paper	pick	played	pull
parade	picnic	playing	pumpkin
park	picture	please	punch
part	pictures	plow	puppy
party	pie	pocket	purple
pass	piece	point	push
past	pieces	pole	pussy
paste	pig	policeman	put
pat	pigeon	pony	putting
pattern	pigs	poor	
pay	pile	pop	
peach	pillow	porch	
quick	quiet	quite	
rabbit	radish	raining	ran
race	rain	rake	rat

reach	remember	road	rope
read	rest	robin	roses
ready	ribbon	rock	round
real	ride	rode	row
really	right	roll	run
red	ring	roof	running
reindeer	river	room	
said	shoes	socks	stocking
sail	shoot	soft	stockings
salt	shop	sold	stone
same	shot	soldier	stop
sand	should	soldiers	stopped
sandwich	shovel	some	store
Santa Claus	show	somebody	story
Saturday	shut	someone	stove
saucer	sick	something	straight
save	sidewalk	song	straw
saw	silk	soon	strawberry
says	silver	sound	street
scared	sing	soup	string
school	sir	sour	strong
scissors	sister	sparrow	stuck
seat	sit	spider	stuff
second	sitting	spill	such
see	six	spoon	sugar
seed	skate	spring	suit
seeds	skip	sprinkle	summer
seem	sky	square	sun
seen	sled	squirrel	Sunday
sell	sleeping	stairs	Sunday-school
send	sleepy	stand	sunshine
sent	slide	standing	supper
set	slip	star	suppose
seven	slippers	start	sure
sew	slow	station	sweater
shall	small	stay	sweep
she	smell	steal	sweet
sheep	smoke	steam	swim
shelf	smooth	stem	swing
shell	snow	step	
shine	so	stick	
shoe	soak	still	
table	tag	take	taking
tablecloth	tail	takes	talk

talking	these	till	town
tea	they	time	toy
teacher	thing	times	toys
tear	things	tiny	track
teeter	think	tip	train
teeth	thirsty	tire	tree
telephone	this	tired	trees
tell	those	to	truck
ten	though	to-day	trunk
tent	thought	toe	trying
than	thousand	together	tub
thank	thread	told	Tuesday
Thanksgiving	three	to-morrow	turkey
that	through	tongue	turn
that's	throw	too	turned
the	thumb	took	twelve
their	ticket	tooth	twenty
them	tie	top	two
then	tiger	touch	
there	tight	towel	
umbrella	until	upstairs	used
uncle	up	us	
under	upon	use	
very			
wagon	we	whistle	wolf
wait	wear	white	woman
wake	week	who	wonder
walk	well	whoa	won't
walking	we'll	whole	wood
wall	went	whose	woodpecker
want	were	why	woods
wanted	we're	wide	word
wants	wet	will	work
warm	we've	wind	worm
was	what	window	would
wash	what's	windows	wouldn't
washed	wheel	winter	write
washing	when	wipe	writing
wasn't	where	wire	wrong
watch	which	wish	
water	while	wishes	
way	whip	with	

yard	yes	you	yourself
year	yesterday	your	
yellow	yet	yours	

The degree to which the primer prepares for immediate and near future reading needs can be determined by comparing it with the words most commonly found in the analysis of first,⁶ second,⁷ and third⁸ readers. These three investigations were made several years ago. Recently Supt. H. W. Kircher of Sheboygan, Wisconsin, has completed the analysis of the vocabulary of 37 primers and first readers. His investigation has not been published, but he has kindly given permission to print his list, which follows:

a	air	an	arms
about	Alice	and	around
above	all	another	as
acorn	almost	answer	ask
across	alone	any	asleep
afraid	along	anything	at
after	also	apple	ate
again	always	apples	awake
against	am	ate	away
ago	among	arm	
baby	beat	better	blows
back	beautiful	big	blue
bad	because	bird	boat
bag	bed	birds	boats
bake	bee	birthday	book
baker	bees	bit	books
ball	been	bite	both
bark	before	black	bow
barn	began	blacksmith	bowl
basket	behind	blew	bowls
be	bell	blossom	bow-wow
bear	best	blow	box

⁶ Packer, J. L. "The Vocabularies of Ten First Readers." *The 20th Yearbook* of this Society, Part II, Ch. IX. Public School Pub. Co., Bloomington, Ill., 1921.

⁷ Housh, E. T. "Analysis of the Vocabularies of Ten Second-year Readers." *The 17th Yearbook* of this Society, Ch. IV. Public School Pub. Co., 1918.

⁸ Miller, N. S. "A Critical Analysis of Vocabulary of Ten Third Readers." Master's thesis, University of Iowa.

boy	bright	brought	buttercup
boys	bring	brown	butterfly
branch	brings	build	buy
bread	broke	built	buzz
breast	brook	burn	by
brick	broom	but	
bridge	brother	butter	
cake	carry	city	corn
calf	cares	clear	could
call	cat	clock	country
called	catch	close	cover
calls	caught	clothes	cow
came	chair	clouds	cows
can	change	coal	cradle
candy	cheese	coat	cream
cannot	chick	cock	cried
can't	chicken	cold	cries
cap	child	come	cross
car	children	comes	cry
cars	chimney	coming	cut
care	Christmas	cook	cheer
daisy	dew	doing	draw
Dan	diamond	doll	dream
dance	did	dolly	dress
dandelion	dig	done	drink
dark	dinner	donkey	drive
day	dish	don't	drum
dead	do	door	dry
dear	doctor	dove	duck
deep	does	down	dust
den	dog	drank	
each	east	eggs	everything
ear	eat	eight	everywhere
early	eaten	evening	eye
ears	eating	ever	eyes
earth	eats	every	
face	farm	fed	field
fairies	farmer	feed	fill
fall	fast	feel	find
falling	faster	feet	fine
family	fat	fell	finger
far	father	fellow	fir

fire	flour	foot	friend
first	flower	for	frightened
fish	flowers	forget	from
five	fly	found	frost
flag	flying	four	fruit
flew	follow	fox	full
flies	following	Fred	fun
floor	food	fresh	funny
game	glad	good-by	green
garden	go	goose	grew
gate	goat	got	grind
gather	God	grain	ground
gave	goes	grandma	grow
get	going	grandmother	growing
gingerbread	gold	grandpa	guess
girl	golden	grass	
girls	gone	gray	
give	good	great	
had	having	her	honey
hair	hay	here	hop
half	he	herself	horn
hand	head	hide	horse
hands	health	high	hot
hang	hear	hill	hour
happy	heard	him	house
hard	hears	himself	horses
harm	heart	his	how
has	help	hold	hungry
hat	helped	hole	hurrah
have	hen	home	hurt
I	ill	into	it
ice	I'll	iron	its
if	in	is	
Jack	John	jump	just
Jill			
keep	kind	kitten	know
kept	king	kitty	
kill	kite	knew	
lamb	large	late	lay
land	last	laugh	lead

leaf	letter	live	looks
learn	light	lived	lost
leave	like	lives	loud
leaves	likes	load	love
legs	lilies	long	loved
left	lily	longer	loves
less	lion	look	
lesson	listen	looked	
let	little	looking	
made	me	mill	much
make	meadow	mind	Mr.
makes	meadows	mine	Mrs.
making	meat	money	music
mamma	meet	moon	must
man	men	more	my
many	merry	morning	myself
March	met	mother	
Mary	mew	mothers	
market	might	mouse	
matter	mile	mouth	
may	milk		
name	neighbor	night	nose
named	neither	nine	not
names	nest	no	nothing
near	never	noise	now
neck	new	none	nut
Ned	next	nor	nuts
need	nice	north	
O	old	opened	out
oak	on	or	oven
of	once	orange	over
off	one	other	own
often	only	others	ox
oh	open	our	
pail	peep	pictures	play
pan	pen	pie	played
papa	penny	piece	playing
paper	people	pieces	plays
party	pet	pig	playmate
pat	pick	pink	pleasant
paw	picked	place	please
pay	picture	plant	pleased

plum	pot	pull	puts
pony	present	pussy	
poor	pretty	put	
quack	queer		
rabbit	ready	river	room
race	red	road	rooster
rain	rest	robin	roots
ran	ride	rock	round
rat	right	rocks	run
reach	ring	rode	runs
read	ripe	roll	
sad	set	six	squirrels
said	seven	skip	stand
sail	shake	sky	star
sailing	shall	sleep	stars
salt	sharp	sleeping	start
same	she	sleepy	stay
sand	sheep	sly	step
sang	shell	small	stick
Santa Claus	shine	smell	sticks
sat	shining	smile	still
Saturday	ship	snow	sting
saw	shoe	so	stocking
say	shoes	soft	stone
saying	shook	soldier	stop
says	short	soldiers	store
school	should	some	stories
scratch	show	something	story
sea	shut	sometimes	street
second	sick	son	strong
see	side	song	sugar
seed	sight	soon	summer
seeds	silver	sorry	sun
seek	sing	sound	supper
seem	singing	south	sweep
seen	sings	speak	sweet
sees	sister	spin	swing
sell	sit	spoon	swim
send	sitting	spring	
sent	sits	squirrel	
table	take	taking	talking
tail	taken	talk	tall

teach	they	thus	touch
teacher	thin	till	town
teeth	thing	time	train
tell	things	times	tramp
ten	think	tiny	tree
than	thinks	to	tried
thank	this	to-day	trot
that	those	together	true
the	though	told	try
their	thought	Tom	turn
them	three	too	turkey
then	throw	took	to-morrow
there	through	tools	two
these	thumb	top	
uncle	up	us	used
under	upon	use	
very	violet	visit	voice
wagon	wave	whole	woke
wait	way	whose	woman
waited	we	whom	women
waiting	was	why	wolf
wake	well	wide	wonder
waked	went	will	won't
walk	were	wind	wood
walking	west	window	woods
wall	wet	wing	wool
want	what	wings	word
wanted	wheat	winter	words
wants	when	wise	work
warm	where	wish	world
was	which	wished	would
wash	while	wishes	write
watch	white	with	
water	who	without	
yard	yellow	you	yourself
year	yes	young	
years	yet	your	

III. LITERARY READERS TO BE USED FOR CLASS EXERCISES IN BOTH ORAL AND SILENT RECREATORY READING

One or two complete sets of such books are sufficient. In addition, a few copies each of several books should be provided for use with groups. The standards for this type of reader are set up elsewhere. Additional standards for literary readers in this period are: (a) the selections should not be too long; and (b) those used for dramatization should have action, or lively conversation, or be suited to pantomime.

IV. FREE READING

Sometimes a child will prefer to read by himself; at other times he may wish to read with a small group of his classmates.

The policy should be, after one complete set of books has been purchased, to buy one copy each of a large number of different books, so that much individual and group reading may be done. There are at present very few whole story units for children of this age. The best of these should be purchased.

These individual copies should be the most attractive that can be obtained. Since but one of a kind is bought, it is feasible to purchase more expensive books and better editions than would be possible were the books bought in sets.

A great number of progressive schools use a table upon which to display these books to the children, and set aside a period each day for free reading.

V. SEAT WORK

There has always been a demand on the part of classroom teachers for aid in the solution of the problem of what to do with pupils for seat work. In primary rooms, which are more informally furnished, this problem is better stated in terms of work that the pupil can do without the immediate direction of the teacher. Of course, free reading comes under this classification. Exercises, similar in type to the informal tests listed in Chapter IX, are excellent for this purpose.

VI. THE BEGINNING OF SILENT READING OF THE WORK TYPE

One or two sets of work-type silent readers are sufficient. The subject matter of such readers should furnish interesting and vital

information. Such reading, even more than the reading of literature, is the natural outgrowth of the informal exercises recommended for introducing the child to reading as thought-getting. These silent reader texts should not be introduced until a child has gained considerable facility in doing the reading which is based upon informational activities. The fact that such readers contain information on problems in which the child is interested makes them especially valuable for stimulating discussion and for developing a rigorous, thoughtful attitude toward the work type of reading. There is great need for more books which present answers to questions which children frequently ask.

VII. PHONICS

Materials used in the teaching of phonics depend, of course, upon the method which the committee recommends. This method seems to be, in general, an analytical one, introduced only after the child has gained a fair vocabulary of sight words. If commercial charts are used care must be taken to insure that the phonic training is kept in its proper subordinate place and approached in a truly functional way.

VIII. EXERCISES TO DEVELOP THOUGHT GROUPING, TO ENCOURAGE READING FOR THE THOUGHT, AND TO PREVENT LIP READING

These exercises must be carefully constructed if they are to serve the purposes for which they are intended. They must be so made that the child can show he understands the meaning in some way other than by oral reading. The most convenient way of providing materials for these exercises is in the form of cards, either printed or written in manuscript writing. Two companies have already issued cards which seem to satisfy these requirements. Any set of such cards, however, must be supplemented by others of the same type based upon the experiences which the child is having day by day. The teacher may model the form of these home-made cards upon the commercial sets which are now available.

Too much care cannot be taken with the vocabulary, the thought, and the form of these cards. It should be remembered that these exercises are not intended for teaching new words. They are to give facility in combining into thoughts the words with which the chil-

dren are already familiar. Unless carefully constructed and intelligently used, such exercises are a waste of time.

SPECIFIC RECOMMENDATIONS FOR THE SECOND PERIOD

I. MATERIALS NEEDED FOR RECREATORY READING

A. Books to be Read to Children by the Teacher.

1. Poetry and Rhymes

- a. Bailey, Carolyn S. *Stories and Rhymes for a Child*. With illustrations by Christine Wright. Springfield, Mass.: Milton Bradley Co., 1909.
- b. Browning, Robert. *The Pied Piper of Hamelin*. Illustrated by Hope Dunlap. Chicago: Rand McNally Co., 1910.
- c. Burt, Mary E. (Ed.) *Poems that Every Child Should Know*. New York: Doubleday, Page & Co., 1904, 1909.
- d. De La Mare, Walter, *A Child's Day* (1923); *Down-Adown-Derry* (1922); *Peacock Pie*, 1916. New York: Henry Holt & Co.
- e. Harris, Ada Van Stone and Gilbert, Charles Benajah. *Poems by Grades*, Vol. I. New York: Charles Scribner's Sons, 1907.
- f. Lucas, Edward V. (Comp.). *A Book of Verses for Children*. New York: Henry Holt & Co.
- g. Moore, Clement. *The Night Before Christmas*. New York: Samuel Gabriel Sons & Co.
- h. Quiller-Couch, Lillian and Mabel (Ed.). *The Treasure Book of Children's Verse*. New York: G. H. Doran Co., 1923.
- i. Quiller-Couch, Lillian and Mabel (Ed.). *The Treasure Book of Children's Verse*. Illus. by Etheldreda Gray. New York: Hodder & Stoughton, 1911.
- j. Roberts, Elizabeth Maddox. *Under the Tree*. New York: B. W. Huebsch, Inc.
- k. Rossetti, Christina. *Sing Song*. New York: Macmillan Co.
- l. Sherman, Frank Dempster. *Little Folks' Lyrics*. New York: Houghton Mifflin Co.
- m. Wynne, A. *For Days and Days*. New York: Frederick A. Stokes Co., 1919.

2. Poetry Set to Music.

(See recommendations for the first period.)

3. Stories.

- a. Bailey, Carolyn Sherwin and Lewis, Clara M. *For the Children's Hour*. Illustrated by G. W. Breck, Springfield, Mass.: Milton Bradley Co., 1906.

- b. Brooke, Leslie L. *Tom Thumb*. New York: Frederick Warne and Co.
- c. Bryant, Sara Cone. *How to Tell Stories to Children*. New York: Houghton Mifflin Co., 1905. Chicago: A. Flanagan Co., 1913. Revised edition.
- d. Cowles, Julia D. (Comp.). *Stories to Tell. Indian Nature Myths*. Chicago: A. Flanagan Co., 1906-1918.
- e. Dasent, Sir George Webb. *Popular Tales from the Norse*. New York: G. P. Putnam's Sons.
- f. Davis, John W. *Four New York Boys*. New York: Educational Publishing Co., 1903.
- g. Harrison, Elizabeth. *In Storyland*. Chicago: The National Kindergarten College, 1898.
- h. Holbrook, Florence. *The Book of Nature Myths*. New York: Houghton Mifflin Co., 1902.
- i. Jacobs, Joseph. *English Fairy Tales*. New York: A. L. Bent & Co.
- j. Lindsay, Maud M. *Mother Stories*. Illustrated by Sara Noble Ives. Springfield, Mass.: Milton Bradley Co., 1900.
- k. Lofting, Hugh. *The Story of Dr. Dolittle*, also *The Voyages of Dr. Dolittle*. New York: Frederick A. Stokes Co.
- l. Pratt, Mara L. *Legends of the Red Children*. Chicago: American Book Co., 1897.
- m. Shedlock, Marie. *The Art of the Story-Teller*. New York: D. Appleton & Co.
- n. Sylvester, Charles H. *Journeys Through Bookland*. Chicago: Bellows-Reeve Co., 1912. New edition 1922. Chicago: The Thompson Publishing Co., 1909.
- o. Tanner, Dorothy. *Legends from the Red Man's Forest*. Chicago: A. Flanagan Co., 1895.
- p. Thorne-Thomsen, Gudrun. *East o' the Sun and West o' the Moon*. Chicago: Row Peterson Co.
- q. Wiggin, Kate D., and Smith, Nora A. *The Story Hour*. New York: Houghton Mifflin Co., 1890-1899.
- r. Williston, Teresa P. *Japanese Fairy Tales*. Illustrated by Sanchi O. Gawa. Chicago: Rand McNally Co., 1904.
- s. Zitkala, S. A. *Old Indian Legends*. New York: Ginn and Co., 1901.
- t. Warren, M. and Davenport, E. *Tales Told by the Gander*. New York: Geo. H. Doran Co., 1922.
- u. Stevenson, Augusta. *Plays for the Home*. New York: Houghton Mifflin Co., 1913.

B. Books for Children to Read.

1. Poetry and Rhymes

- a. *A Day of Play*. Illustrated by Carmen Brown. New York: P. F. Volland Co., 1923. (A small linen book.)
- b. Bowman, John. *Happy All Day Through*. Illustrated by Janet Laura Scott. New York: P. F. Volland Co.
- c. *Happy Days*. Illustrated by Carmen Brown. New York: P. F. Volland Co., 1923.
- d. Jackson, Leroy. *The Peter Patter Book*. Illustrated by Blanche Fisher Wright. Chicago: Rand McNally & Co., 1918.
- e. McMurray and Cook. *Songs of the Treetop and Meadow*. Bloomington, Illinois: Public School Publishing Co.
- f. *Mother Goose*, editions of. (See recommendations in first period.)
- g. Muter, Gladys. *Good Little Children from A to Z*. Illustrated by Janet Laura Scott. New York: P. F. Volland Co., 1923.
- h. *My Book of Pets*. Illustrated by Carmen Brown. Chicago: P. F. Volland Co., 1923 (Small linen book.)
- i. Rae, John. *Children at Play in Many Lands*. New York: P. F. Volland Co., 1922. (Linen book.)
- j. Riverside Literature Series. *Verse and Prose for Beginners in Reading*. New York: Houghton Mifflin Co.
- k. Sherman, Frank D. *Little Folk Lyrics*. New York: Houghton Mifflin Co.
- l. Taylor, A. and J., *Rhymes for Children*. Chicago: Educational Publishing Co.

2. Stories

- a. *Aesop's Fables*. Illustrated by Milo Winter. Chicago: Rand McNally Co.
- b. Bannerman, Helen. *Little Black Sambo*. New York: Frederick A. Stokes Co., 1900.
- c. Beckwith, M. Helen. *In Mythland*. Vols. I and II. Chicago: Educational Publishing Co., 1902.
- d. Benson, Alpha Banta. *The Pied Piper and Other Stories*. Chicago: A. Flanagan Co., 1917.
- e. *Hop-o-My-Thumb*. Illustrated by L. Leslie Brooke. New York: Frederick Warne & Co.
- f. Hoyt, Rebecca. *Robinson Crusoe for Youngest Readers*. Chicago: Educational Publishing Co., 1898.
- g. Lansing, M. F. *Rhymes and Stories*. New York: Ginn & Co., 1907.

- h. Large, Laura A. *Old Stories for Young Readers*. New York: The Macmillan Co., 1917.
- i. *Old, Old Tales Retold*. Illustrated by Frederick Richardson. P. F. Volland Co., New York, 1922.
- j. Potter, Beatrice. *Peter Rabbit*. New York: Samuel Gabriel Sons & Co. Also published New York: Frederick A. Stokes Co.
- k. Pratt, Mara L. *Aesop's Fables*, Vol. II. Chicago: Educational Publishing Co., 1894.
- l. *Puss-in-Boots*. Illustrated by L. Leslie Brooke. New York: Frederick Warne & Co.
The Three Bears. Same author and publisher.
The Three Little Pigs. Same author and publisher. 1905.
- m. Wilson, Gilbert L. *Myths of the Red Children*. New York: Ginn and Co., 1907.

C. Picture Books for the Children's Table. (Books recommended for the first period may also be used here.)

Note: The best school primers and first readers are, on the whole, not only superior to the books in this list, but are also less expensive.

II. MATERIALS NEEDED FOR THE WORK TYPE OF READING

A. Types of Books to be Used as References by the Teacher in Making Silent Reading Exercises for Children.

- 1. *Agricultural Report*. Washington, D. C.: Department of Agriculture, current year.
- 2. *Book of Knowledge*. New York: The Grolier Society.
- 3. Comstock, A. B. *Handbook of Nature Study*. Ithaca, N. Y.: Comstock Publishing Co., 1922.
- 4. Compton, F. E. *Compton's Picture Encyclopedia*. Chicago: F. E. Compton & Co.
- 5. Eastman, C. A. *Indian Boyhood*. New York: McClure, Phillips & Co., 1902.
- 6. Miller, Olive T. *The First Book of Birds*. New York: Houghton Mifflin Co.
- 7. Thompson, Arthur J. *Outlines of Science*. New York: G. P. Putnam's Sons.
- 8. Walker, M. C. *Our Birds and Their Nestlings*. Chicago: American Book Co., 1904.
- 9. Whitney, Annie. *School Health Studies*. Washington, D. C.: Bureau of Education, Department of Interior.
- 10. Such magazines as *The Scientific American*, the *Nature Magazine*, *The National Geographic*, and *Bird Lore* con-

tain an abundance of interesting information for the teacher's use. The pictures in these magazines can be used with pupils.

11. McCracken and Lamb. *Occupational Information in the Elementary School*⁹ and Bonser and Mossman, *Industrial Arts for Elementary Schools*⁹ have helpful bibliographies on all phases of industrial life.

B. Types of Informational Books for Children to Read. There are few satisfactory informational books, if any, that can be read by pupils in this period. Such books should contain sincere answers to children's questions, should be accurately written and well illustrated. The following books are among the best which are available.

1. Adelborg, Ottilia. *Clean Peter and the Children of Grubbylea*. New York: Longmans, Green and Co., 1901.
2. Bailey, Carolyn. *In and Outdoor Plays and Games* and *All the Year Play Games*. Chicago: Albert Whitman Co.
3. Falls, C. B. *A B C Book*. New York: Doubleday, Page & Co., 1923.
4. *Field and Farm*. New York: Samuel Gabriel Sons & Co., 1920. (Very well bound.)
5. Hall, Jennie. *Weavers and Other Workers*. Chicago: Educational Publishing Co.
6. Jewett, Martha. *Hopi, the Cliff Dweller*. Chicago: Educational Publishing Co.
7. Miriam, Ida C. *Knowledge Primer Games*. Chicago: Albert Whitman & Co. (Very well bound.)
8. *My Book of Cats and Dogs*. New York: Samuel Gabriel Sons & Co.

THE THIRD PERIOD

(Grades II and III. This is the period of vigorous emphasis on the fundamental attitudes, habits, and associations.)

I. MATERIALS FOR RECREATORY READING

For class exercises in developing facility in oral reading and for the study of literary selections, one or two sets of literary readers are sufficient. Especially where schools have limited funds it is doubtful whether other full supplementary sets of literary readers should be bought. Rather, it is better to spend the same amount of money in buying five or six copies each of a few additional titles

⁹ *Op. Cit.*

for reading in groups, and a large and varied list of individual books. These books may be used by individual children to read to the rest of the class for entertainment. By giving a book to the reader only, one solves at once much of the problem of securing an audience attitude. Skilful teachers often conduct all oral reading lessons without a set of books, placing a book in the hands of the reader only.

As in the first grade, it is well to have a reading table upon which attractive books may be placed. Even as early as in these grades, some of the more attractive and better illustrated magazines may be introduced for the pictures they contain.

II. MATERIALS FOR SILENT READING OF THE WORK TYPE

A. The Textbook in Silent Reading.

One or two sets of silent reading textbooks are sufficient. These texts should provide a definite introduction to the problems involved in getting information and in solving problems through the use of books. The lessons must therefore contain accurate and worthwhile information. There should be lessons from nature study, from history, from hygiene, from arithmetic—in fact, from the principal subjects which are studied in this and in the following period. The text should contain systematic exercises for developing the fundamental reading abilities needed in the study of books.

B. Supplementary Informational Books.

Perhaps at no time in the more advanced grades will the child ask so many questions of fact as he does in these grades, and yet there are very few first-class presentations of informational material which will answer the questions most frequently asked. Wherever such books can be found, they should be provided for these grades. When books are appropriate for use in other subjects, such as nature study, history, hygiene, or home geography, they should be bought in sets so that the child may be introduced to the use of text material in the study of such problems as are found in these subjects.

III. MATERIALS FOR SPECIAL PEDAGOGICAL USE

A. Phonics.

The phonic work in Grades II and III should be largely individual after proper diagnosis has been made.

B. Rapid Exposure Exercises.

Such exercises are to be used for the development of better eye-movements, for calling attention to the necessity of reading for thought, and for increasing speed and decreasing lip reading.

For general review, such commercial sets as are recommended for Grade I may be used in these grades. In addition, as in Grade I, it should be the teacher's practice to build upon the children's experience all the varieties of rapid exposure exercises which have been found to be valuable. It is not unlikely that these rapid exposure exercises bring larger returns per unit of time used in Grade II and Grade III than in Grade I.

SPECIFIC RECOMMENDATIONS FOR THE THIRD PERIOD

I. MATERIALS NEEDED FOR RECREATORY READING

A. Books to be Read by the Teacher to the Children.

1. Babbitt, Ellen G. *Jataka Tales*. New York: Century Co.
2. Baldwin, James. *Old Greek Stories*. Chicago: American Book Co.
3. Bryce, C. T. *Fables from Afar*. Chicago: Newson & Co.
4. Burgess, T. W. *The Burgess Animal Book for Children*. Boston: Little, Brown & Co.
5. Collodi, C. *Adventures of Pinocchio*. Chicago: Ginn & Co.
6. Colum, Padraic. *The King of Ireland's Son*. New York: The Macmillan Co.
7. Davis, M. H. and Chow-Leung. *Chinese Fables and Folk Stories*. Chicago: American Book Co.
8. Faulkner, Georgene. *Old English Nursery Tales*. New York: Doubleday, Page & Co.
9. Graves, A. P. *The Irish Fairy Book*. New York: Frederick A. Stokes Co.
10. Harris, Joel Chandler. *Uncle Remus: His Songs and His Sayings*. New York: D. Appleton & Co.
11. Holbrook, Florence. *Northland Heroes*. New York: Houghton Mifflin Co., 1915.
12. Jordan, David S. *True Tales of Birds and Beasts*. Chicago: D. C. Heath & Co.
13. Kipling, Rudyard. *Just So Stories*. New York: Doubleday, Page & Co.
14. Mamin-Siberiak. *Verotchka's Tales*. New York: E. P. Dutton.

15. Mulock, Miss. *The Little Lame Prince*. Chicago: Rand McNally & Co.
16. Perrault, Charles. *Fairy Tales*. New York: E. P. Dutton Co.
17. Scudder, H. E. *The Book of Legends*. New York: Houghton Mifflin Co.
18. Sewell, Anna. *Black Beauty*. New York: Doubleday, Page & Co.
19. Zitkala, S. A. *Old Indian Legends*. Chicago: Ginn & Co.

B. Books to be Read Silently by the Children.

1. Aanrud, Hans. *Lisbeth Longfrock*. Chicago: Ginn & Co.
2. Aspinwall, Mrs. Alicia. *Short Stories for Short People*. New York: E. P. Dutton Co.
3. Brown, A. F. *The Lonesomest Doll*. New York: Houghton Mifflin Co.
4. Burgess, T. W. *Old Mother West Wind; Jimmy Skunk, and Peter Cottontail*. Boston: Little, Brown & Co.
5. Chadwick, Mrs. Mara Louise Pratt. *America's Story for America's Children*. Chicago: D. C. Heath & Co.
6. Cooke, F. J. *Nature Myths and Stories for Little Children*. Chicago: A. Flanagan Co.
7. Davis, A. C. *Stories of the United States for Youngest Readers*. Chicago: Educational Publishing Co.
8. Eggleston, Edward. *Stories of Great Americans for Little Americans*. Chicago: American Book Co.
9. France, Anatole. *Bee, the Princess of the Dwarfs*. New York: E. P. Dutton Co.
10. Haaren, J. H. *Fairy Life*. Chicago: Newson & Co.
11. Hunt, C. W. *About Harriet*. New York: Houghton Mifflin Co.
12. Jacobs, Joseph. *English Fairy Tales*. New York: G. P. Putnam's Sons.
13. Judd, M. C. *Wigwam Stories*. Chicago: Ginn & Co.
14. Lansing, M. F. *Quaint Old Stories to Read and Act*. Chicago: Ginn & Co.
15. Miller, Olive B. *My Book House*. Chicago: My Book House Publishing Co.
16. Olcott, F. J., *The Book of Elves and Fairies*. New York: Houghton Mifflin Co.
17. Phillips, E. C. *Wee Ann: A Story for Little Girls*. New York: Houghton Mifflin Co.
18. Potter, Beatrix. *The Tailor of Gloucester*. New York: Frederick Warne & Co.

19. Richards, Laura E. *The Pig Brother and Other Fables and Stories*. Boston: Little, Brown & Co.
20. Skinner, E. L. and A. M. *Nursery Tales from Many Lands*. Chicago: Charles Scribner's Sons.
21. Williston, Teresa P. *Japanese Fairy Tales*. Chicago: Rand McNally & Co.

C. Types of Material for Class Training in Oral Reading and Dramatization.

There should be an abundance of easy material for oral reading and dramatization. Much of it can be selected from the regular text in reading. No selection which is to be used later as literature material should be chosen. A few duplicate copies of books which contain stories easily dramatized, or which are particularly well-adapted to oral reading exercises, should be provided.

1. Bannerman, Helen. *The Story of Little Black Sambo*. New York: Frederick A. Stokes & Co.
2. Byron, May. *The Little Small Red Hen*. New York: Hodder and Stoughton.
3. Chadwick, Mara L. Pratt. *Little Plays for Little Players*. Chicago: Educational Publishing Co.
4. Goodlander, Mabel R. *Fairy Plays for Children*. Chicago: Rand McNally & Co.
5. Potter, Beatrix. *All About Peter Rabbit*. New York: Cupples and Leon Co.
6. Pratt, Mara L. *Aesop's Fables*. Chicago: Educational Publishing Co.
7. Wiltse, Sara E. *Folklore Stories and Proverbs*. Chicago: Ginn & Co., 1900.

D. Books to be Read Orally by Pupils for the Purpose of Entertainment.

1. *Aesop's Fables*. Retold by Joseph Jacobs. Chicago: The Macmillan Co.
2. Baldwin, James E. *Fifty Famous Stories Retold*. Chicago: American Book Co.
3. Bosschere, Jean de. *Folk Tales of Flanders*. New York: Dodd Mead & Co., 1918.
4. Dickens, Charles. *The Magic Fishbone*. New York: Frederick Warne & Co.
5. Holbrook, Florence. *The Book of Nature Myths*. New York: Houghton Mifflin Co., 1902.
6. Mulock, Miss. *Adventures of a Brownie*. New York: Harper.

7. Snedden, G. S. *Docas, the Indian Boy of Santa Clara*. Chicago: D. C. Heath Co.
8. Thorne-Thomsen, Gudrun. *East o' the Sun and West o' the Moon*. Chicago: Row, Peterson & Co.
9. Wilson, G. L. *Myths of the Red Children*. Chicago: Ginn & Co.

E. Books of Poetry for Second and Third Grades.

1. Baker, E. K. *The Children's First Book of Poetry*. Chicago: American Book Co.
2. Field, Eugene. *With Trumpet and Drum*. New York: Charles Scribner's Sons.
3. Fyleman, Rose. *Fairies and Chimneys*. New York: G. H. Doran Co.
4. Lang, Andrew. *Nursery Rhyme Book*. New York: Frederick Warne & Co.
5. Lear, Edward. *Nonsense Books*. Boston: Little, Brown & Co.
6. Quiller-Couch, Mabel and Lillian. *Treasure-Book of Children's Verse*. New York: G. H. Doran Co.
7. Riley, J. W. *The Book of Joyous Children*. New York: Charles Scribner's Sons.
8. Stevenson, Burton E. *Home Book of Verse*. New York: Henry Holt & Co.
9. Stevenson, R. L. *A Child's Garden of Verses*. New York: Charles Scribner's Sons, 1902.
10. Wells, C. *Book of Humorous Verse*. New York: G. H. Doran Co.

II. MATERIALS NEEDED FOR WORK-TYPE READING

A. Books for Pupils' Use.

1. Andrews, Jane. *Seven Little Sisters*. Chicago: Ginn & Co.
2. Baldwin, James. *Robinson Crusoe*. Chicago: American Book Co.
3. Bass, M. F. *Stories of Pioneer Life*. Boston: D. C. Heath & Co.
4. Carpenter, Frank. *Around the World with the Children*. Chicago: American Book Co.
5. Chance, Lulu M. *Little Folks of Many Lands*. Chicago: Ginn & Co.
6. Craig, J. B. *Nature Study for Boys and Girls*. Kansas City, Mo.: McIndoo Publishing Co.
7. Hall, Jennie. *Weavers and Other Workers*. Chicago: Rand McNally & Co.
8. Knowlton, P. A. *First Lessons in Geography*. New York: The Macmillan Co.

9. Miller, Olive T. *First Book of Birds*. New York: Houghton Mifflin Co.
10. Morcomb, M. E. *Red Feather Stories*. Chicago: Lyons & Carnahan.
11. Muller, Mary. *Little People of the Snow*. Chicago: A. Flanagan Co.
12. Nida, Stella. *Letters of Polly the Pioneer*. New York: The Macmillan Co.
13. Shepherd, E. P. *Geography for Beginners*. Chicago: Rand McNally & Co.
14. Shillig, Elnorae. *The Four Wonders*. Chicago: Rand McNally & Co.
15. Stone, Gertrude L., and Fickett, Grace. *Every Day Life in the Colonies*. Boston: D. C. Heath & Co.
16. Perdue, H. A. *Child Life in Other Lands*. Chicago: Rand McNally & Co.
17. Strong, Frances L. *All the Year Round*. Chicago: Ginn & Co.

B. Other material which can be used.

Hectographed sheets on the following types of material: Interesting content material worked out by the teacher on nature study, elementary science, health, safety, history, rules, etc.

Experiences and observations given by the children on excursions, weather, projects, health, rules, etc.

III. PEDAGOGICAL MATERIALS IN READING

(See recommendations for preceding period.)

THE FOURTH PERIOD

(Grades IV, V, and VI. This is the period of wide reading.)

1. RECREATORY READING

As in the preceding grades, one or two full sets of literary readers are ample for class practice in the development of oral reading abilities and for the class study of the literary selections. When these sets have been provided, the policy should be to buy five or six copies each of a number of titles for reading in groups, and one or two copies each of a large number of very attractive books for free reading.

The list of books for these grades should contain those which are classics in the reading experience of children in this period, such as *Robinson Crusoe* and *White Indian Boy*. In addition, many other types of interesting books should be included, such as books of

travel, books of adventure, and simply and vividly written histories. The book list should be widely varied in type of selection and in degree of difficulty. At the same time, special care should be exercised to see that each grade library contains a large number of books which are relatively easy to read. Students of the problem of developing facility in silent reading seem to be agreed that a large amount of reading of easy materials is quite essential in these grades.

A very large proportion of the oral reading done in these grades should consist of selections prepared by individual students and read to the class. This insures a proper audience attitude both on the part of the reader and on the part of the audience. Many times as much material as is found in the ordinary literary reader should be read orally.

II. WORK-TYPE READING

A. The textbook in silent reading.

This textbook should lead the pupil to see the importance of acquiring the fundamental skills, habits, and attitudes needed in studying the various subjects in the course of study in the intermediate grades. It should therefore contain lessons in which are involved the principal types of reading difficulties which will confront the pupil in the preparation of his lessons in these grades. Every attitude, skill and ability needed in factual or logical reading can be developed through proper systematic exercises in the silent reading textbooks. It is well to repeat here, however, that this book is primarily a textbook on how to study, that much of the motive for the use of the lessons in this book will come from the recognition of shortcomings in studying informational books, and that as fast as skills, attitudes, and abilities are developed in the use of the silent reader, they must be carried over into the reading done in connection with other subjects. Indeed, as soon as an ability has been developed through the use of the silent reading textbook, it should be applied at once to the study of such subjects as history, geography, arithmetic, and hygiene. It seems obvious that the more the content of silent reading textbooks resembles that found in these subjects, the more easily will this transfer or application be made.

B. The study of textbooks and supplementary books.

Textbook study in such subjects as geography, history, hygiene, and arithmetic is begun in most schools by the beginning of Grade 4. These textbooks should supplement the use of silent readers for silent reading practice. Such drill constitutes valuable training in how to study. Grade libraries should also be supplied not only with duplicate sets of supplementary books in geography, history, and hygiene, but also with a considerable number of single copies which may be used for individual reports.

III. SPECIAL PEDAGOGICAL MATERIALS

By the beginning of Grade IV, no additional pedagogical materials should be necessary except those used in diagnostic and remedial work with individuals. Even in these grades, most pupils will profit from rapid exposure exercises. Such pupils as have not yet developed independent word recognition should have diagnostic and remedial treatment in phonetics.

SPECIFIC RECOMMENDATIONS FOR THE FOURTH PERIOD**I. MATERIALS NEEDED FOR RECREATORY READING**

(These books are intended for free reading. Most of them are suitable for reading aloud.)

1. Alcott, Louisa May. *Little Men. Little Women.* Boston: Little, Brown & Co.
2. Aldrich, T. B. *The Story of a Bad Boy.* Boston: Houghton Mifflin Co.
3. Andersen, H. C. *Fairy Tales.* New York: E. P. Dutton & Co.
4. *Arabian Nights Entertainment.* New York: G. P. Putnam's Sons.
5. Bennett, John. *Master Skylark.* New York: The Century Co.
6. Beston, Henry B. *The Starlight Wonder Book.* Boston: The Atlantic Monthly Press.
7. Brown, A. F. *In the Days of Giants.* Boston: Houghton Mifflin Co.
8. Boutet de Monvel, Louis Maurice. *Joan of Arc.* New York: The Century Co.
9. Browning, Robert. *The Pied Piper of Hamelin.* Chicago: Rand McNally & Co.
10. Bryant, Lorinda M. *The Children's Book of Celebrated Buildings. The Children's Book of Celebrated Pictures. The Children's Book of Celebrated Sculpture.* New York: The Century Co., 1924, 1922, 1923.

11. Burgess, Thornton W. *The Burgess Animal Book for Children. The Burgess Bird Book for Children.* Boston: Little, Brown & Co.
12. Burroughs, John. *Squirrels and Other Fur-bearers.* Boston: Houghton Mifflin Co.
13. Carroll, Lewis. *Alice's Adventures in Wonderland.* New York: The Macmillan Co.
14. Collins, F. A. *The Wireless Man.* New York: D. Appleton & Co. Also *The Boys' Book of Model Aeroplanes.* New York: The Century Co.
15. Colum, Padraic. *The Adventures of Odysseus and the Tale of Troy. The King of Ireland's Son.* New York: The Macmillan Co.
16. Comstock, J. H. *Insect Life.* New York: D. Appleton & Co.
17. Daly, T. A. *Canzoni and Songs of Wedlock.* New York: Harcourt, Brace & Co.
18. De Foe, Daniel. *Adventures of Robinson Crusoe.* New York: Charles Scribner's Sons.
19. Dodge, Mary M. *Hans Brinker or the Silver Skates.* New York: Charles Scribner's Sons.
20. Driggs, Wilson. *The White Indian Boy.* Yonkers-on-Hudson: The World Book Co.
21. Grahame, Kenneth. *The Wind in the Willows.* New York: Charles Scribner's Sons.
22. Grimm, J. and W. K. *Household Tales.* New York: The Macmillan Co. Also *Fairy Tales.* Translated by Mrs. E. Lucas. Philadelphia: J. B. Lippincott Co.
23. Guiterman, A. *The Laughing Muse.* New York: Harper and Brothers.
24. Harris, J. C. *Uncle Remus, His Songs and His Sayings. Nights with Uncle Remus.* Boston: Houghton Mifflin Co.
25. Haskell, Helen E. *Katrinka.* New York: E. P. Dutton & Co.
26. Hawthorne, N. *Wonder Book. Tanglewood Tales.* Boston: Houghton Mifflin Co.
27. Husband, Joseph. *A Year in a Coal-mine.* Boston: Houghton Mifflin Co.
28. Ingersoll, Ernest. *Book of the Ocean.* New York: The Century Co.
29. Jacobs, Joseph. *English Fairy Tales. Celtic Fairy Tales.* New York: G. P. Putnam's Sons.
30. Kipling, R. *Jungle Book.* New York: Doubleday, Page & Co. Also *Boys' Stories.* Chicago: Rand McNally & Co.

31. Lagerlof, Selma. *The Wonderful Adventures of Nils*. New York: Doubleday, Page & Co.
32. Lanier, Sidney (editor) *Malory's Boys' King Arthur*. New York: Charles Scribner's Sons.
33. Lomax, John A. *Cowboy Songs and Other Frontier Ballads*. New York: The Macmillan Co.
34. MacManus, S. *Donegal Fairy Tales*. New York: Doubleday, Page & Co.
35. Maeterlinck, Georgette L. *Blue Bird for Children*. New York: Dodd, Mead and Co.
36. Maeterlinck, Maurice. *The Children's Life of the Bee*. New York: Dodd, Mead and Co.
37. Morgan, A. P. *Boys' Home Book of Science and Construction*. Boston: Lothrop, Lee and Shepard Co.
38. Moses, Montrose. *A Treasury of Plays for Children*. Illustrated by Tony Sarg. Boston: Little, Brown & Co., 1921.
39. Parkman, Mary R. *Heroes of To-day*. New York: The Century Co., 1923.
40. Pumphrey, Margaret B. *Pilgrim Stories*. Chicago: Rand McNally & Co.
41. Pyle, Howard. *Pepper and Salt. Merry Adventures of Robin Hood*. New York: Charles Scribner's Sons.
42. Ramée, Louisa de la. *Bimbi Stories*. Philadelphia: J. B. Lipincott Co.
43. Raspe, Rudolph E. *Adventures of Baron Munchausen*. Boston: Houghton Mifflin Co.
44. Richards, L. E. *Captain January*. Boston: Page Co.
45. Riley, J. W. *A Host of Children*. Indianapolis: Bobbs-Merrill Co.
46. Roosevelt, Theodore. (Edited by Joseph B. Bishop.) *Theodore Roosevelt's Letters to His Children*. New York: Charles Scribner's Sons.
47. Ruskin, J. *King of the Golden River*. New York: The Macmillan Co.
48. Sanford, C. M., and Owen, G. A. *Modern Americans. Modern Europeans. Other Soldiers*. Chicago: The Laurel Book Co.
49. Seton, E. T. *Biography of a Grizzly*. New York: The Century Co. Also *Lives of the Hunted, The Trail of the Sandhill Stag. Wild Animals I Have Known*. The last three, New York: Charles Scribner's Sons.
50. Spyri, J. *Heidi*. Chicago: Rand McNally & Co.
51. Steel, Flora Annie. *A Tale of Indian Heroes*. Chicago: Scott, Foresman & Co.

52. Stempel, G. H. *A Book of Ballads*. New York: Henry Holt & Co.
53. Stevenson, Burton K. *The Home Book of Verse for Children*. New York: Henry Holt & Co.
54. Stockton, F. R. *The Queen's Museum and Other Fanciful Tales*. New York: Charles Scribner's Sons.
55. Swift, J. *Gulliver's Travels*. Chicago: Rand McNally & Co.
56. Thackeray, W. M. *The Rose and the Ring*. New York: G. P. Putnam's Sons.
57. Wade, Mary H. *Real Americans*. Boston: Little, Brown & Co., 1923.
58. Wiggin, Kate D. *Bird's Christmas Carol*. Boston: Houghton Mifflin Co.
59. Wiggin, Kate D., and Smith, N. W. (Comp.) *Golden Numbers*. New York: Doubleday, Page & Co.
60. Wilde, Oscar. *The Happy Prince and Other Fairy Tales*. New York: G. P. Putnam's Sons.
61. Wyss, J. D. *The Swiss Family Robinson*. New York: Harper and Brothers.

II. MATERIALS NEEDED FOR WORK-TYPE OF READING

A. Books containing expository and informational material.

1. Allen, Nellie B. *Geographical and Industrial Studies*. Boston: Ginn and Company. (North America, 1922; United States, 1910; South America, 1918; The New Europe, 1920.)
2. Barrows, H. H., and Parker, E. P. *Geography Journeys in Distant Lands*. New York: Silver, Burdett & Co., 1924.
3. Blaisdell, A. F., and Ball, F. K. *Log-Cabin Days*. Boston: Little, Brown & Co. 1922.
4. Brearley, H. C. *Animal Secrets Told: A Book of Why's*. New York: Frederick A. Stokes Co., 1911.
5. Brigham, A. P. *From Trail to Railway Through the Appalachians*. Boston: Ginn and Co., 1907.
6. Carpenter, F. G. *How the World Is Clothed. How the World Is Fed. How the World Is Housed*. New York: The American Book Co., 1923.
7. Carpenter, F. O. *Foods and Their Uses*. New York: Charles Scribner's Sons, 1907.
8. Chamberlain, J. F. *How We Are Clothed. How We Are Fed. How We Are Sheltered. How We Travel*. New York: The Macmillan Co., 1924.
9. Chapman, Frank M. *Our Winter Birds. The Travels of Birds*. New York: D. Appleton & Co., 1918 and 1916.

10. Curtis, Mary S. *Why We Celebrate Our Holidays*. New York: Lyons and Carnahan, 1924.
11. Dole, C. F. *Young Citizen*. Boston: D. C. Heath & Co., 1899.
12. Fairgrieve, James, and Young, Ernest. *Homes Far Away*. New York: D. Appleton & Co., 1923.
13. Faris, John T. *Real Stories from History*. Boston: Ginn and Co., 1916.
14. Fisher Elizabeth F. *Resources and Industries of the United States*. Boston: Ginn and Co., 1919.
15. Grant, Gordon. *Story of the Ship*. New York: McLoughlin Brothers, 1919.
16. Hotchkiss, Caroline W. *Representative Cities of the United States*. Boston: Houghton Mifflin Co., 1913.
17. Jameson, H. L. *The Flame Fiend*. Boston: Allyn & Bacon, 1921.
18. Moseley, E. L. *Trees, Stars and Birds*. Yonkers-on-Hudson: The World Book Co., 1919.
19. Nichols, M. L. *Science for Boys and Girls*. Philadelphia: J. B. Lippincott Co., 1924.
20. Nida, S. M. *Panama and Its Bridge of Water*. Chicago: Rand McNally & Co., 1922.
21. Nida, W. L. *Following the Frontier*. New York: The Macmillan Co., 1924.
22. O'Shea, M. V., and Kellogg, J. H. *Health Habits*. New York: The Macmillan Co., 1921.
23. Pack, Charles L. *The School Book of Forestry*. Philadelphia: J. B. Lippincott Co., 1922.
24. Rocheleau, W. F. *Great American Industries. Transportation*. Chicago: A. Flanagan Co., 1914.
25. Riggs, R. C. *Animal Stories from Eskimo Land*. New York: Frederick A. Stokes Co., 1923.
27. Schwartz, J. A. *Five Little Strangers and How They Came to Live in America*. New York: American Book Co., 1904.
28. Turkington, Grace A. *My Country*. Boston: Ginn & Co., 1918.
29. Waldo, L. M. *Safety First for Little Folks*. New York: Charles Scribner's Sons, 1918.
30. Wells, Margaret E. *How the Present Came from the Past*. New York: The Macmillan Co., 1917.
31. Wilson, Lucy L. W. (Ed.) *Everyday Manners for American Boys and Girls*. New York: The Macmillan Co., 1923.

B. Magazines.

1. *Nature Magazine*. Washington, D. C.: American Nature Association.

C. Books needed in developing ability to locate materials.

1. Encyclopedia:

Compton's Pictured Encyclopedia. Chicago: F. E. Compton Publishing Co., 1922.

The World Book. Chicago: Hanson-Roach-Fowler Co., 1918.

2. Dictionaries:

Webster's Elementary School Dictionary. New York: American Book Co., 1914.

Winston's Simplified Dictionary. Chicago: J. C. Winston Co., 1921.

3. Atlas:

Goodes School Atlas. Chicago: Rand McNally & Co., 1923.

THE FIFTH PERIOD

(Grades VII, VIII, and IX. This is the period of refining reading and study habits.)

I. RECREATORY READING

A. Recreational Types of Oral Reading

Only such material should be read orally as is likely to be read aloud in real life. The audience attitude should be secured by having books in the hands of the reader only.

Four literary types lend themselves easily to oral reading: poetry, short stories, plays, and informal essays. Poetry, which is dramatic in theme, and poetry which is not introspective may be used in the junior high school. A poem should nearly always be read to the children by the teacher, unless it is a child's particular choice and contribution to the oral reading lesson. Poems, such as ballads, which are unique in form should be read with copies in the hands of the children. Ballads and other poems set to music may be sung.

Short stories suitable for oral reading should be strong in suspense, must move fast enough to hold the interest, or be humorous.

Such plays as *Julius Caesar*, in which much of the real understanding depends upon the interpretation put into the words by the reader, should be read by the teacher with books in the hands of the children because of the difficulty of the form. Many plays, such as *Six Who Pass While the Lentils Boil*, *The Knave of Hearts*, and parts of *Midsummer Night's Dream*, are simple in vocabulary and can be read aloud by children if desired.

Informal essays, particularly those with a humorous turn, such as Bergengren's *Furnace and I*, furnish interesting and profitable material for oral reading.

B. Recreational Types of Silent Reading

All the literary types—poetry, short stories, plays, essays, novels, biography, and travel—can be utilized as silent reading material. Much of this may be read in a rather cursory fashion but much should be used for class exercise for a better appreciation of content and presentation.

The novel is the most difficult to use for class study because of its length and because examples rich enough in interest and good enough in form are rare. Therefore, most novels should be read silently, with creative class discussion and oral reading of suitable bits.

Free reading in all the types should be extended, wide in range of interest, and carefully selected for literary and life values. Books for free reading should be single copies, attractively bound, and containing really illustrative pictures. The selection should include standard and contemporary literature, a very few current magazines, and factual material.

C. Principles of Selection of Recreatory Material

1. The range of material should be wide in appeal and character and should include selections from the literature of all peoples. In order to care for individual differences in reading ability, materials should present a wide range of difficulty.

2. Those books that are of recognized and permanent value should be given first place, though promising books as yet untried by time may be used for experimentation.

3. The books must bring to the individual, through vicarious experiences, the dominant ideals of society at its best, "its traditions, its thoughts, its customs."

4. The books must be characterized by beauty of idea and form.

5. The books must interest and entertain the individual, so that he will form the purpose and habit of reading books of a like type.

6. The books must serve as a proper criterion for helping the individual to recognize the permanent values in books.

II. WORK TYPE OF READING

A. Relations to Other Subjects.

Much of the work type of reading may be handled in the content subject classes. The ability to use books should be mastered before the junior high school, so that special drill is no longer necessary. But in case such skills have not been perfected, the same types of materials should be used as in the preceding period under the direction of special teachers of reading. The content subjects lend themselves to excellent practice in all of the four classes of work-type abilities.

B. Principles of Selection of Work-Type Material.

1. The material should increase the child's desire to read.
2. It should enrich his stock of information and experience.
3. It must develop his judgment for purposes of evaluating, organizing, and supplementing the material read.
4. The material must serve as a proper criterion for helping the individual to recognize the permanent value of books.
5. The work type of material in the junior high school should be graded to correlate with content subjects or used in any year as need demands.

SPECIFIC RECOMMENDATIONS FOR THE FIFTH PERIOD

Neither the recreatory nor the work type of material should be arbitrarily graded, but its place should be determined by the age and experience of the children and the general plan of the course of study.

Selections starred (*) may be used either as recreatory or as work-type material.

I. MATERIALS NEEDED FOR RECREATORY READING

A. Books.

1. Barrie, J. M. "Pantaloons" (Drama). *Half Hours*. New York: Charles Scribner's Sons.
2. Brower, Harriette. *Story-Lives of Master Musicians*. New York: Frederick A. Stokes Co.
3. Bulfinch, Thos. *Age of Fable*. Boston: Lothrop, Lee and Shepard Co.

4. Bullen, Frank T. *Cruise of the Cachalot*. New York: Grossett and Dunlap.
5. Burroughs, John. *Birds and Bees. Bunch of Herbs*. Boston: Houghton Mifflin Co.
6. Butler, E. P. *Pigs Is Pigs*. Garden City, New York: Doubleday, Page & Co.
7. Cervantes, M. *Don Quixote Retold* (by A. E. Parry). New York: John Lane Co.
8. Church, A. J. *The Iliad for Boys and Girls*. New York: The Macmillan Co.
9. Cooper, J. F. *Leatherstocking Tales*. Boston: Houghton Mifflin Co.
10. Dana, Chas. H. *Two Years Before the Mast*. Boston: Houghton Mifflin Co.
11. Darton, F. J. H. *Story of the Canterbury Pilgrims*. New York: Frederick A. Stokes Co.
12. Davis, R. H. *Miss Civilization*. New York: Charles Scribner's Sons.
13. Davis, R., and Getchell, F. G. *Stories of the Day's Work*. Boston: Ginn and Co.
14. De Amicis, E. *An Italian School Boy's Journal*. New York: T. Y. Crowell Co.
15. Dickens, Charles. *A Christmas Carol. David Copperfield. Oliver Twist* (parts). Boston: Houghton Mifflin Co. Also *Tale of Two Cities*. New York: T. Y. Crowell Co.
16. Drinkwater, John. *Abraham Lincoln* (Drama). Boston: Houghton Mifflin Co.
17. Eggleston, E. *Hoosier School Boy. Hoosier School Master*. New York: Charles Scribner's Sons.
18. French, H. W. *Lance of Kanana*. Boston: Lothrop, Lee and Shepard Co.
19. Gale, Zona. *Neighbors* (Drama). New York: B. W. Huebsch, Inc.
20. Gregory, Lady. *Seven Irish Plays* (Drama). New York: G. P. Putnam's Sons.
21. *Grenfell, W. T. *Adrift on an Ice Pan*. Boston: Houghton Mifflin Co.
22. Hale, E. E. *The Man Without a Country*. Boston: Little, Brown & Co.
23. Hawes, Charles B. *The Mutineers. The Great Quest. Dark Frigate*. Boston: Atlantic Monthly Press.

24. Hawthorne, N. "The Great Stone Face." *Tales of the White Hills*. Boston: Houghton Mifflin Co.
25. Hazelton and Benrimo. *The Yellow Jacket* (Drama). Indianapolis: Bobbs-Merrill Co.
26. Howells, W. D. *A Boy's Town*. New York: Harper and Bros.
27. Hudson, W. H. *Far Away and Long Ago*. New York: E. P. Dutton & Co.
28. Irving, W. *Rip Van Winkle. Legend of Sleepy Hollow*. New York: The Macmillan Co.
29. Keller, Helen. *The World I Live In. Story of My Life*. New York: Doubleday, Page & Co.
30. Kingsley, Chas. *Westward, Ho!* Garden City, New York: Charles Scribner's Sons (illus.).
31. Kipling, R. *Barrack Room Ballads. Captains Courageous. Land and Sea Tales for Boys and Girls*. New York: Doubleday, Page & Co. Also *Reader for Upper Grades*. New York: D. Appleton & Co.
32. London, Jack. *Call of the Wild*. New York: The Macmillan Co.
33. Longfellow, H. W. *Courtship of Miles Standish. Evangeline. Tales of a Wayside Inn*. Boston: Houghton Mifflin Co.
34. Loti, Pierre. *Iceland Fisherman*. New York: A. L. Burt Co.
35. Mackaye, Percy. *Canterbury Tales*. New York: Duffield & Co.
36. Masefield, John, *Jim Davis*. New York: Grossett & Dunlap. Also *Martin Hyde*. Boston: Little, Brown & Co.
37. Matthews, Brander (ed.). *Poems of American Patriotism*. New York: Chas. Scribner's Sons.
38. Melville, Herman. *Typee*. New York: Harcourt Brace and Co.
39. *Mills, Enos. *Wild Life in the Rockies*. Boston: Houghton Mifflin Co.
40. *Morley, Elizabeth. *Bee People. Song of Life*. Boston: Houghton Mifflin Co.
41. Muir, John. *Boyhood of a Naturalist. Stickeen*. Boston: Houghton Mifflin Co.
42. Noyes, Alfred A. *Sir Francis Drake*. New York: Frederick A. Stokes Company.
43. **Official Handbook for Boys. Boy Scouts of America*. New York: Doubleday, Page & Co.
44. Page, T. N. *Marse Chan*. New York: Chas. Scribner's Sons.
45. *Parkman, F. *Oregon Trail*. Boston: Little, Brown & Co.
46. Poe, E. A. *Gold Bug*. Boston: Houghton Mifflin Co.
47. Pyle, Howard. *Men of Iron*. New York: Harper & Bros.

48. Rittenhouse, Jessie B. *Little Book of American Poets*. Boston: Houghton Mifflin Co.
49. *Roosevelt, T. *African Game Trails*. New York; Chas. Scribner's Sons. Also *Winning of the West*. New York: G. P. Putnam's Sons.
50. Scott, W. *Ivanhoe. Lady of the Lake. Quentin Durward*. Boston: Houghton Mifflin Co.
51. **Scouting for Girls*. Official handbook. New York: Girl Scouts.
52. Scoville, S. C., Jr. *Wild Folk*. Boston: Atlantic Monthly Press.
53. Shakespeare, Wm. *Julius Cæsar. Midsummer Night's Dream. Tempest*. Boston: Houghton Mifflin Co.
54. Sharpe, D. L. *A Watcher in the Woods*. New York: The Century Co.
55. Stevenson, R. L. *Kidnapped. Treasure Island*. New York: Chas. Scribner's Sons.
56. Stockton, F. R. *Buccaneers and Pirates of Our Coast*. New York: The Macmillan Co. Also *Casting Away of Mrs. Lecks and Mrs. Aleshine*. New York: The Century Co.
57. Tagore, R. *The Post Office* (Drama). New York: The Macmillan Co.
58. Teter, Geo. (ed.). *One Hundred Narrative Poems*. Chicago: Scott, Foresman & Co.
59. Tolstoi, Leo. *Twenty-three Tales*. New York: Funk & Wagnalls Co.
60. Twain, Mark. *Connecticut Yankee. Adventures of Huckleberry Finn. Adventures of Tom Sawyer*. New York: Harper & Bros.
61. Untermeyer, Louis. *This Singing World*. New York: Harcourt Brace & Howe.
62. Warner, C. D. *A Hunting of the Deer*. Boston: Houghton Mifflin Co.
63. White, Stewart Edward. *The Blazed Trail*. New York: Grossett & Dunlap.
64. Whittier, J. G. *Snow-Bound*. Boston: Houghton Mifflin Co.
65. Yeats, Wm. B. *The Hour Glass* (Drama). New York: The Macmillan Co.

B. Magazines.

- Scientific American*. New York: Scientific American Publishing Co.
- National Geographic*. Washington, D. C.: National Geographic Society.

Nature Magazine. Washington, D. C.: American Nature Association.

Literary Digest. New York: Funk & Wagnalls Co.

Popular Mechanics. Chicago: Popular Mechanics Co.

Youth's Companion. Boston: Perry Mason Co.

St. Nicholas. New York: The Century Co.

(We recognize the fact that there is no really fine literary magazine suitable for people of junior-high school age.)

II. MATERIALS NEEDED FOR WORK-TYPE READING

A. Books.

1. Adams, J. H. *Harper's Electricity for Boys.* New York: Harper & Bros.
2. *Addams, J. *Twenty Years at Hull House.* New York: The Macmillan Co.
3. *Antin, Mary. *The Promised Land.* Boston: Houghton Mifflin Co.
4. Babson, R. W. *Future of South America.* Boston: Little, Brown & Co.
5. Baldwin. *Conquest of the Old Northwest. Discovery of the Old Northwest,* New York: American Book Co.
6. Beard, H. E. *Safety First for School and Home.* New York: The Macmillan Co.
7. Brooks, Noah. *First Across the Continent.* New York: Chas. Scribner's Sons.
8. Brower, Harriette. *Story-Lives of Master Musicians.* New York: Frederick A. Stokes Co.
9. Burroughs, J. *Camping and Tramping with Roosevelt.* Boston: Houghton Mifflin Co.
10. Clarke, C. R., and Small, S. A. *The Boys' Book of Physics.* New York: E. P. Dutton & Co.
11. Collins, A. F. *The Boy Astronomer. The Boy Chemist.* Boston: Lothrop, Lee & Shepard Co.
12. Crissey, Forrest. *The Story of Foods.* Chicago: Rand-McNally & Co.
13. Elson, H. W. *Sidelights on American History,* 2 vols. New York: The Macmillan Co.
14. Forman, S. E. *Stories of Useful Inventions.* New York: The Century Co.
15. Franklin, Benj. *Autobiography of Benjamin Franklin.* Chicago: Rand-McNally Co.
16. Freeman and Chandler. *World's Commercial Products.* Boston: Ginn & Co.

17. Gordy, W. F. *Colonial Days*. New York: Chas. Scribner's Sons.
18. Hall, A. N. *Boy Craftsman: Practical and Profitable Ideas for a Boy's Leisure Hours*. Boston: Lothrop, Lee & Shepard Co.
19. Hardy, M. E. *Plant Geography*. Oxford, Eng.: Oxford Clarendon Press.
20. *Hasbrouck, L. S. *Boy's Parkman*. Boston: Little, Brown & Co.
21. *Hawksworth, Hallam. *The Adventures of a Grain of Dust. The Strange Adventures of a Pebble*. New York: Chas. Scribner's Sons.
22. *Hawthorne, N. *Grandfather's Chair*. Boston: Houghton Mifflin Co.
23. Herbertson, A. J. and F. L. D. *Man and His Work*. New York: The Macmillan Co.
24. Hornaday, W. F. *American Natural History*. New York: Chas. Scribner's Sons.
25. Hunter, G. W. and Whitman, W. G. *Civic Science in the Community. Civic Science in the Home*. New York: American Book Co.
26. Johnston, R. M. *Napoleon Bonaparte*. New York: Holt and Co.
27. Jordan, D. S. *The Strength of Being Clean*. Boston: Beacon Press.
28. Keller and Bishop. *Commercial and Industrial Geography*. Boston: Ginn & Co.
29. Lescarbourea, A. C. *Radio for Everybody*. New York: Scientific American Publishing Co.
30. McIsaac, T. J. *The Tony Sarg Marionette Book*. New York: B. W. Huebsch.
31. McMurry, C. A. *Pioneers of the Rocky Mountains and the West*. New York: The Macmillan Co.
32. Meadowcroft, W. H. *Boy's Life of Edison*. New York: Harper & Bros.
33. Mowry, A. M. *American Inventors and Inventions*. New York: Silver Burdett & Co.
34. Muir, J. *Our National Parks*. Boston: Houghton Mifflin Co.
35. Newbigin, M. S. *Animal Geography*. Oxford, Eng., Oxford Clarendon Press.
36. *Nicolay, Helen. *Boy's Life of Lincoln*. New York: The Century Co.
37. Paine, A. B. *Boy's Life of Mark Twain*. New York; Harper & Bros.
38. Parkman, F. *Struggle for a Continent*. Boston: Little, Brown & Co.

39. Piercy, Willis D. *Great Inventions and Discoveries*. New York: Chas. E. Merrill Co.
40. Pinchot, G. *Training a Forester*. Philadelphia: J. B. Lippincott Co.
41. Price, O. W. *The Land We Live In*. Boston: Small, Maynard & Co.
42. *Riis, J. A. *The Making of an American*. New York: The Macmillan Co.
43. Roosevelt and Lodge. *Hero Tales from American History*. New York: The Century Co.
44. Southey, R. *Life of Nelson*. Boston: Houghton Mifflin Co.
45. Slosson, E. E. *Creative Chemistry*. New York: The Century Co.
46. Smith, J. Russell. *Commerce and Industry. World's Food Resources*. New York: Holt & Co.
47. Southworth, G. Van D. *Builders of Our Country*. New York: D. Appleton & Co.
48. Sparks, E. E. *Men Who Made the Nation*. New York: The Macmillan Co. Also *Expansion of the American People*. Chicago: Scott Foresman Co.
49. *Stanley, H. M. *In Darkest Africa*. New York: Charles Scribner's Sons.
50. Tappan, E. M. *American Hero Stories*. Boston: Houghton Mifflin Co.
51. Taussig, Chas. W. *Book of Radio*. New York: D. Appleton & Co.
52. Thomas, Jas. L. *Fundamentals of Radio*. New York: D. Van Nostrand Co.
53. Thwaites, R. G. *Daniel Boone*. New York: D. Appleton & Co.
54. *Van Loon, H. H. *The Story of Mankind*. New York: Boni & Liveright.
55. *Washington, B. T. *Up from Slavery*. New York: Doubleday, Page & Co.
56. Weston, W. H. *Plutarch's Lives Retold for Young People*. New York: Frederick A. Stokes Co.

CHAPTER VIII

PROVISION FOR INDIVIDUAL DIFFERENCES

Inadequacy of prevailing practice. It is comparatively easy to demonstrate the wide range of reading abilities and interests represented by the members of a single class or grade or age group. It is not so simple to demonstrate the inadequacy of traditional procedures or to initiate effective provisions for individual differences. Numerous plans have been devised with this end in view, but there is as yet no general realization of the utter inadequacy and sheer waste of traditional reading recitations. Whole classes are required to attend and keep the place while pupils read orally in turn. Interest which forges ahead is penalized. Teachers who would not deign to consider such obsolete practice as reading in concert, thus rest content with procedures which are psychologically equivalent. Whole classes are provided with the same articles of reading diet on the same day. Too often the diet is meager and the daily portion insufficient.¹ Freshness and variety are noticeably lacking. Selections are served and rehashed so many times that appetites are systematically dulled. Or, when silent reading assignments permit each pupil to read at his own rate, those who finish first are expected to sit idly by until told what to do. Again, there is a premium on listlessness and often a penalty for the child who reads on or engages in other forbidden activities. After a sufficient lapse of time or at arbitrary signals from the teacher, all pupils stop reading and move together to some other concert activity. These procedures are so manifestly unsuited to the attainment of sound objectives and so obviously productive of poor attitudes, that one can but marvel at their prevalence and persistence.

Range of abilities within classes. Standardized reading tests reveal surprising differences in achievement within groups of the same age, grade, or class.² When the range of abilities within a class is wide, instruction and materials which are adjusted to the

¹ Judd, C. H., "Relation of school expansion to reading," *Elementary School Journal*, 22 (December, 1922), pp. 253-266.

² Kelley, T. L., Ruch, G. M., and Terman, L. M. *Manual of Directions for the Stanford Achievement Test*. Yonkers-on-Hudson: World Book Company, 1924. Pp. 58-59.

needs of the upper end of the class distribution can hardly be well adapted to the abilities of pupils in the lowest third of the class.

Desirable changes. One measure of the effectiveness of reading instruction is the amount of time during which each pupil is actually engaged in reading, at his own rate, material from which he is deriving adequate meaning and satisfaction. Such provision for individual differences does not necessitate great expenditure of money and is entirely within the reach of any school whose teachers are alert. One or two copies of a number of books can be purchased as easily as whole sets of supplementary books. Pupils should have in their desks or on reading tables something to read, and feel free to read it when not otherwise engaged. Pupils who do not need review experience should be excused to do extensive reading. The reading which pupils and adults do outside of school hours is usually purposeful, engaging, informal. Instruction in reading should prepare pupils to choose and care for worth-while books, by providing opportunities for choice, incentives to leisure reading, and varied and abundant experience in purposeful silent reading. The attainment of these objectives is not likely unless teachers are roused to a critical consideration and selection of ways and means.

Needs revealed by scientific studies. The terms *reading groups*, *individual instruction*, *diagnostic teaching*, and *remedial work*, are ones with which the teacher of to-day has to reckon. Scientific studies and survey results³ have brought to her door several very pertinent facts which reveal:

1. The necessity of provision for individual differences in reading ability, tastes, and interests in reading.⁴
2. The necessity for meeting such differences by:
 - a. Changes in method.
 - b. Changes in class organization and management.
 - c. Variety in materials.

³ Courtis, S. A., *The Gary Public Schools: Measurement of Classroom Products*. New York: General Education Board, 1919. Pp. 445.

Judd, C. H., *Measuring the Work of the Public Schools*. Cleveland Education Survey Reports, 1916.

⁴ Jordan, A. M., *Children's Interests in Reading*. Teachers College Contributions to Education, No. 107. New York: Teachers College Bureau of Publication, 1921. P. 143.

Uhl, W. L., *Scientific Determination of the Content of the Elementary School Course in Reading*. University of Wisconsin studies in the Social Sciences and History, No. 4. Madison: The University of Wisconsin, 1921. P. 152.

The following questions are immediately suggested by such considerations: How may a teacher group her class? What are the bases for grouping? How does she manage a number of groups simultaneously? What is her procedure? When does she get time to help the poor reader? What and how does she teach? How does she meet the individual needs? Under what circumstances, if ever, may a whole class be handled as a unit?

Although other parts of this report answer some of these questions, certain direct suggestions may be in place here.

Bases for grouping children. Flexible grouping is usually preferable because needs change. Pupils may be grouped on the basis of reading ability and needs, as determined by standardized or informal tests. Independent work may then be provided for able readers, in order that the teacher may be free to guide and help pupils who are more or less deficient. Varying tastes and interests are the bases for the selection of varied materials and also point to the need for an organization of classroom procedures which permits a reasonable amount of choice in the selection of materials. Sometimes pupils elect to work or read in pairs or groups. This type of grouping provides opportunity for audience situations without requiring whole classes to attend to the same selection. Sometimes grouping is necessitated by material conditions; for example, there may be but a few books of a kind or a play may require but a few characters.

The teacher's function. This changes according to the purpose or manner of grouping. On some days, the teacher acts chiefly as expert observer, recording and checking on habits and methods of work. On other days, she acts as helper, adviser, and guide, stimulating the pupils to worth-while activity and calling their attention to materials or means of attaining their purposes. Again, the teacher administers special work with small groups or individuals, after making provision for suitable activities for other groups. In other words, no *one* plan should be followed day in and day out.

Multiple assignments. Sometimes, the provision for individual differences is managed by multiple assignments. One minimal assignment is accompanied by optimal assignments. When children complete the minimal assignment, they are free to choose from a number of proposed reading activities, all of which are planned to enlist interest and enthusiasm. By another plan, two or three assignments

are based on books of similar content, but varying difficulty. This requires small sets or groups of books. Abler pupils use the more difficult material and work on assignments which enlist real effort. The same plan can be adapted to provide for varied interests.

In providing special training another type of multiple assignment is desirable. Pupils who need various types of training are selected by informal or standardized tests.⁵ For those who do not need this training, other reading opportunities or responsibilities are provided. The two groups which are in need of special training are handled in turn as follows: Group I practices or studies independently while Group II receives specific training from the teacher. Group II takes a practice test or studies while Group I receives another type of training, according to the specific needs previously revealed.

During the free reading period, the teacher has occasion to study pupil interests and to aid in the selection of reading materials which will broaden interests, elevate tastes, and contribute to permanent attitudes toward reading as a leisure activity.

General references. For the professional study of such problems there are a number of general and non-technical references which provide constructive suggestions.⁶

Class work. It must not be inferred that the handling of a class as a whole is always objectionable. The following are types of reading activity in which a class may engage as a whole:

1. So-called appreciation lessons in which pupils enjoy together some literary unit which is read by the teacher or by pupils who have had opportunity to select material and prepare themselves to read it for the express purpose of sharing their enjoyment and appreciation with their classmates.
2. Reading activities based upon material to which slower pupils may respond by reading silently at their rate level,

⁵ See Chapter IX of this *Yearbook*.

⁶ Germane, C. and Germane, E. *Silent Reading*. Chicago: Row, Peterson and Co., 1923. P. 383.

Leonard, S. A. *Essential Principles of Teaching Reading and Literature*. Philadelphia: J. B. Lippincott Co., 1922. P. 460.

Penell, M., and Cusack, A. *How to Teach Reading*. Boston: Houghton Mifflin, 1924.

Stone, C. R. *Silent and Oral Reading*. Boston: Houghton Mifflin, 1922.

Wheat, H. G. *The Teaching of Reading*. Boston: Ginn and Co., 1923.

- while able, rapid readers are freed for further reading, other significant activity, or additional assignments.
3. Reading of bulletins, blackboard material, or communications related to class activities which require class planning or are matters for discussion.
 5. Situations in which individual differences are provided for in the *materials*, although the class is managed as a whole.
 6. Test situations expressly arranged to reveal individual differences and the range of abilities within a class.

Quite the opposite of mass methods is proposed by those who advocate individual instruction as the solution of the problem of providing for individual differences. Fortunately we are not obliged to choose between the two extreme positions, for no doubt the best way lies somewhere between the two or in a combination of group and individual work. The most advantageous combination or compromise is the practicable plan which permits each pupil to reach his fullest measure of growth with the least waste and most abundant satisfaction.

Most mass methods are of administrative origin and have little pedagogical sanction. They originated in an era, the psychology, sociology, and pedagogy of which are now passé, and nothing but professional inertia accounts for their prevalence in this day and generation. Mass methods are largely accountable for the utter artificiality and cold formality of the typical oral reading recitation, and the cramping, devitalizing effects of thoroughly mechanized, over-routinized school work.

Reading in special classes. The limitations of space prevent a full discussion of the reading needs of special classes, but the chapters on informal tests and diagnostic and remedial work contain numerous suggestions that are applicable.

Reading in rural schools. Provision for individual differences is doubly necessary in rural schools and other situations where more than one grade must be handled by one teacher. The proposals of this chapter and the two which follow will suggest ways and means of organizing groups to meet varied needs.

The improvement of instruction. In the light of what has been said concerning individual differences, it is obvious that the teacher can do much to meet the needs of individuals. The habit of studying

her own procedures, of observing pupil reactions, and of discovering budding tendencies and habits will do much to prevent deficiency, and continuous supervision of learning will reduce the number of serious remedial cases by giving immediate attention to wrong tendencies. Skews of emphasis in reading instruction must be carefully avoided lest one-sided or narrow development results. Routine recitations must be superseded by purposeful instruction if pupils are to be expected to work at a high level of attention.

It is not safe to assume that causes of reading deficiency are always in the pupil. Open-minded study of all the factors which may have a bearing on pupil progress is essential. Lack of effort or interest or ability may be due to factors over which the pupil has no control. The search for ways and means of improving instruction must leave no factors unexplored. Thus, the study of pupils' needs and reactions may point to the necessity for new materials and broader objectives, and reorganized procedures. To equip themselves for this type of professional advance, teachers will need to become acquainted with the newer types of teaching materials which have been developed for just such purposes. Among these are certain forms of pupil records and graphs, practice materials, and informal and standardized reading tests.⁷

By availing themselves of these aids to effective classroom work, teachers will not only find ways of improving their teaching technique, but will also increase the satisfaction of professional endeavor.

⁷ Chapter IX of this *Yearbook*.

Germane, C. E. "Outlining and summarizing compared with re-reading as methods of study." *Twentieth Yearbook* of this Society, Part II. Pp. 103-118. Bloomington: Public School Publishing Co., 1921.

Heller, R. R. and Curtis, S. A., "Exercises developed at Detroit for making reading function." *Twentieth Yearbook* of this Society, Part II. Pp. 153-191. Bloomington: Public School Publishing Co., 1921.

Horn, E., Brown, M. E., Potts, C., Carswell, M. "The teaching of reading." *Second Yearbook of Department of Elementary Principals of the N. E. A.* Pp. 287-382. Washington: Department of Elementary School Principals, 1923.

CHAPTER IX

READING TESTS—STANDARDIZED AND INFORMAL

For the purposes of this report, reading tests may be classified under two heads: standardized and informal. Both types of tests are valuable, but each type has its own characteristics and its specific function. This section treats of standard and informal tests, describing the former and providing numerous illustrations of the latter. Both types of tests disclose individual differences and show the necessity for provisions which take such differences into account.

A. INFORMAL READING TESTS

The emphasis in this chapter has purposely been placed on informal testing because, in the opinion of the committee, the improvement of instruction in reading depends in a great measure on the systematic measurement of attainment with reference to numerous specific objectives. This necessitates the use of informal tests. Most of the illustrative informal tests in this chapter have been successfully used in an experimental way. But the true function of informal tests is best served when the tests are made to suit the material and the situations in which they are to be used. Setting up objectives or purposes and testing for the outcome of instruction will encourage a critical and professional attitude toward the whole reading problem and give a basis for the analyses of learning and teaching upon which the improvement of educational procedures depend.

INFORMAL TESTS AND RECORDS FOR THE PRE-READING STAGE

Standardized reading tests do not reach down into this stage, but readiness for reading can be studied by other methods. Teachers who wish to plan their initial instruction with reference to the readiness of pupils will find the following suggestions helpful.

- a. Observe and record pupils' reactions toward stories and picture books.
- b. Ascertain to what extent pupils are beginning to associate specific rhymes or sentences as wholes with appropriate illustrations.

- c. Give some informal tests of the richness or extent of oral vocabulary.
- d. Ascertain whether pupils are beginning to observe gross differences and similarities. See whether the children can differentiate between two rhymes of varying length, between long and short sentences which begin alike, between words which are very dissimilar. Observations of this sort should be made individually or incidentally.

INFORMAL TESTS FOR THE INITIAL PERIOD OF READING INSTRUCTION

a. *Inventory test and interview.* In addition to the data on intelligence and personal history, there should be some means of inventorying reading attitudes and attainments at the very outset. This may be done by means of an informal inventory or personal interview. The following questions may be used when children are taken individually and they can be adapted to group situations. The teacher prepares record blanks containing these or similar questions, and places for recording data on each child. The necessary materials should be prepared in advance.

Record Sheet for Interview

One of these cards tells your name. Which one is it? _____

One of these cards tells how old you are. Which one is it? _____

I am sure you like to play outdoors. What do you like to play best of all? _____

Who plays with you? _____ Have you any brothers or sisters? _____

Have you any pets? _____

What toys have you at home? _____ Tell me which toys you like best of all? _____

Do you have any books? _____ What do you like to do with books? _____

Did you ever have any lessons with books? _____

Can you read a little? _____

Does anyone ever read to you? _____

(Inquire how much, whether regularly, etc.)

What stories do you know? _____

Do you know any rhymes? _____

(Illustrate by *Humpty Dumpty* or *Little Jack Horner*.)

Do you know what any of these cards say?_____

(Show four or five word cards all of which are names of common animals. If there is no response, wait a bit before suggesting that they are all names of animals. Make note of all responses.)

Perhaps you have seen these words at home or on signs. Tell me which ones you know. _____

(Show four or five cards that contain in large print words which are common in the pre-school environment, as *hot, cold, stop, go, mail, cent, exist, milk, soap, store, danger, cash, St., once, sugar, sale, oats, grocer.*)

(Expose a series of cards on which the following lines are typed or printed in type slightly larger than primer size. Arrange these cards in the order here given.)

One, two, three
Ha, Hi, Ha
No, no, no
a bumble bee
a big black bear
123 654 879
a cat and a dog
Merry Christmas
a bumble bee

(Ask the following questions in order and make note of responses.)

Can you point to the line that has numbers in it?_____

Say the numbers as I point to them. _____

(Point in the order printed. If the child points to the *first* line or card, ask him to tell you what it says, and then say:)

Now see if you can find a card that has real numbers like house numbers or car numbers. _____

Point to two cards that are exactly alike. _____

(Report relative ease of recognition in terms of time or procedure.)

Point to the card that says *Merry Christmas*. _____

Now look at all the cards.

Point to the card that says the same thing over and over. _____

Point to the card that says *a bumble bee*. _____

There is a card that says *a big black bear*. Point to where it says *bear*. _____

Show me where it says *big*. _____

One card says *a cat and a dog*. Put one finger on *dog* and another on *cat*. _____

This test may be abbreviated for children who show no interest or readiness to respond. This fact should be noted in the record. For children who cannot respond satisfactorily to any of the ques-

tions, suitable initial instruction is manifestly very different than for those who can actually read. For the latter there should be some record of habits, quality of performance, and rate on a simple paragraph; preferably use the first paragraph of the Gray Oral Reading Test. The test does not set standards, but makes it possible for teachers to study the comparative abilities of pupils at the beginning of the first grade.

During the first few weeks of school, the teacher should look for evidences of the ability to detect gross differences or similarities in sentences, rhymes, phrases or words, as occasion arises in the regular activities. Difficulty in realizing that two words or phrases are identical is extremely significant. Children who cannot do this readily are not ready to see gross differences or to make finer discriminations. Matching exercises may be used as informal tests, but should be discontinued as soon as ready recognition is evidenced.

b. *Ascertain whether pupils are over dependent on positional clues.* Selected portions of stories should be placed on phrase cards and shuffled. Children who have excessive difficulty are usually those who have found a 'short-cut' method of getting material either by rate or by position and who are likely to assume that such associations are adequate to reading needs. This test is therefore useful to detect cases which need guidance beyond that point.

c. *Ascertain to what extent pupils realize the meaning of phrases out of familiar context, without saying the words of each phrase.* This is not only a test, but also an opportunity for practice or review with the vocabulary of stories previously read.

The teacher says: "Point to the right thing in the right picture in your book." The teacher exposes the following phrases, one at a time, on the blackboard or on large phrase-cards (any reader containing pictures full of action may be used in this manner).

The pupil responds by pointing to the proper thing.

The old man	The hole in the bag
The old man's bag	The gold that fell out
The gold on the floor	The fairy
The window	The fairy's wand
The man at the window	The children
The old man in bed	The yellow dandelions

d. *Ascertain whether the children can recognize phrase meaning*

when phrases from stories are introduced in questions. The teacher says: "This is a game called 'Who.' Every card begins with this word, 'Who.' You must point to the right answer in your book."

Variations: (a) You must point to the right picture in your book to answer the question. (b) You may pick out the card or answer from those on the chalk tray or blackboard. (The only new word is "Who.")

Who went to market?
Who came to the door?
Who had a bag?
Who opened the bag?
Who caught the bumble bee?

Who put the pig into the bag?
Who ran after the pig?
Who let the little boy out?
Who went to the woods?
Who had a fine dinner?

e. *Ascertain whether children can comprehend questions in which familiar statements are paraphrased.* The teacher says: "Each card in this game begins with 'What.' Open your books to the story and answer by reading the right words. The right words are the ones that tell 'What.'" (Notice how the order of the words is changed by using these questions. Verb forms are also changed.) Or the teacher says: "Be ready to answer the question" (orally).

What did Peter Rabbit hear?
What did the dogs say?
What did Peter Rabbit say?
What did the horse do all day?
What did the horse say?
What did the cow say?
What did the goat say?
What was the goat afraid of?
What did Peter Rabbit think?
What did he do?

f. *Ascertain whether the children can silently read and grasp the organization or sequence or relation of ideas in a selection when the exact wording is changed.* This also gives pupils review experiences with rearranged vocabulary of stories previously read and tests their reading ability in the use of that vocabulary.

The teacher gives pupils envelopes containing shuffled cards, on each one of which appears one of the following sentences. The teacher says: "Arrange these cards to show how things happened in

the story." (Any story with sequence may be used. This one is merely illustrative. Notice that the sentences are framed to stress sequences.)

A little girl wanted to find the stars.
She went out to find them.
First she came to a pond.
Then she met some fairies.
After that she met an elf.
Then she met a horse.
His name was Four-feet.
Four-feet took her to No-feet.
He was a fish.
Next she came to Stairs with no steps.
That was the rainbow.

g. *Ascertain whether the children can complete sentences and organize them into a story from incomplete visual cues.* Unfinished sentences based on a story previously read are put on the black-board or on cards. The same idea can be used with sentences based on class experiences. Pupils are told to study to see whether they can read the sentences as though the whole story were there.

The goat saw _____
They had to cross _____
When they went over the bridge they heard _____
This is what he said _____
Next came the _____
He said _____
Last of all came the _____
He said _____
The troll tried to _____
The troll fell _____

h. *Ascertain whether the children can select related meanings and put them together.* The following questions and mixed lettered answers, based on content material previously read, are placed on the board.

The teacher or pupil calls out the number of a question. The pupils all read the question silently, find the appropriate answer, and respond either by reading it or by setting down its letter. A few incorrect answers may be added so that the children do not answer by elimination.

- | | |
|---|-------------------|
| 1. Who was Rago's sister? | a. the baby |
| 2. When did they live? | b. far, far away |
| 3. Where did they live? | c. five |
| 4. How many children were there? | d. three |
| 5. Who was oldest? | e. two |
| 6. Who was youngest? | f. Rago |
| 7. What did their mother carry on her back? | g. Goni |
| 8. Where did they all sleep? | h. in the trees |
| | i. the baby |
| | j. long, long ago |
| | k. in beds |
| | l. John |

i. *Test factual comprehension.* Incidentally, this gives new reading experiences based on material previously read, preferably on factual material related to class experiences. Some early experiences should be with animals. This illustration presupposes class experiences with frogs.

Each child is supplied with cards, on which the words *yes* and *no* are printed, and with number cards. Or pupils may write or print *yes* or *no* beside the numbers which they write on a slip of paper. This technique makes it possible to use the exercise or test with a group or as seatwork.

The teacher says: "Read the first question and answer it by *yes* or *no*. Then read the next sentence and answer it. Try to answer all of them."

1. Do frogs lay eggs?
2. Did you ever see a frog's egg?
3. Do frogs' eggs have hard shells?
4. Do frogs lay very many eggs?
5. Are frogs' eggs as big as marbles?
6. Do frogs sit on their eggs until they hatch?
7. Are frogs' eggs found on the ground?
8. Did you ever see a pollywog?
9. Do pollywogs have tails?
10. Do pollywogs turn into frogs?
11. Do frogs have tails?
12. Can pollywogs swim?
13. Do young pollywogs have legs?
14. Do frogs have only two legs?
15. Do pollywogs ever have two legs?

j. *Test to see whether children can select true from false statements.* From a group of sentences on the blackboard or on type-written sheets, pupils are asked to cross out all the untrue sentences. The content should be familiar. Variation: The sentences may also be printed on separate cards. In that case pupils are asked to sort out the untrue cards.

Bread is made of wheat.
Bread is made of stones.
Bakers sow the wheat.
Farmers sow the wheat.
The birds eat all the wheat.
The wheat grows tall and ripens.
The baker makes the wheat.

k. *Test ability to grasp related meanings and to express and interpret ideas by means of simple drawings.* Each pupil receives a card containing a rhyme or paragraph with directions to be followed. This idea need not be illustrated here.

l. *Test to see whether children can keep the place.* Each child is supplied with a copy of a mimeographed, hectographed, or printed story. The printed or typed lines should not be longer than four inches and the print should be as large as that in the reader. The teacher reads at a normal rate, phrasing the words properly. The children are told to keep the place with their eyes, without pointing to words, and to draw a line after every word on which she stops. The teacher marks her own copy before she reads and uses it in scoring. Stops should not come on adjacent lines. Pencils should be pointed upward when not in use.

The following variations are suggested. (1) When testing individuals or where the training value alone is desired, children may be asked to complete the sentences orally to show where the teacher stopped. (2) Using similar materials, the teacher reads a part of a story and stops at an opportune place, giving the children a direction concerning the next sentence. This test, or exercise, gives practice in place-keeping, following directions, and search for a specific idea. It requires alert attention and gives practice in reading at a high level of attention. An illustration is given:

The teacher reads: "Once upon a time there was an old man." The

teacher says: "The next sentence tells what he loved. Draw a line under the word that tells what he loved. (Pause.) The next sentence tells what the old man made for his friends. Find the word that tells what he made and draw a line around it. Now read on. Draw a line under every word in the next line that tells what the old man did in spring." Pause while the children read silently. "The old man loved birds. He made houses for them and put them in the trees all around his own house. In winter when food was hard to find, he fed his bird friends. In spring he made a bird garden. In the middle of the garden there was a bird bath. There were also many kinds of shrubs which birds liked. The birds were not afraid of the old man. They often sat on his arm and ate crumbs from his hand."

The following directions illustrate the further development of the idea.

The teacher goes to the board and sketches an oblong to represent a garden. She says: "Suppose this was a garden. Find out what was here (putting a ring in the center) in the garden. Draw a ring around the words that tell.

"Find two things that show that the birds were not afraid of the old man. Underline the words that tell whether the birds were afraid of the old man. Show what proves it."

Variation: Children read the whole selection. Directions similar to those given above are put on the blackboard and followed without the teacher's participation. This use of the exercise requires less alertness, but has compensating values.

m. *Test each pupil's ability to recognize words in isolation in a way which requires attention to meaning rather than mere word calling.* Words from previous reading experiences are to be selected to fit the following or similar classifications: (a) names of animals, (b) colors, (c) words of action or words that tell something to do, (d) things made of wood, (e) things to eat or drink, (f) things to wear, (g) words that tell where, (h) words that tell who (persons), and (i) words that tell how many. Words under two or three of the classifications are then grouped with a few irrelevant words of similar form or appearance. Children are required to select, pronounce, or mark all the words of a given classification.

Variations: (1) Separate word cards may be used. Classification cards may be made of another color. Pupils organize a shuffled

pack of word cards under the given classifications, culling out into a separate file words which do not fit any classification.

(2) A similar exercise can be arranged using incomplete sentences instead of classifications. The children are told to find all the words which could be used to complete each sentence as follows:

I like to eat _____
Some flowers are _____

I put on my _____
I went to _____

The first column of words given below could be used for colors, numbers, and animals. Irrelevant words similar in form are included. The second column contains words which refer to size, persons, clothing. The third column may be used for foods, actions, places. The lists could, of course, be much longer.

rat	hat	bread
red	had	break
three	man	up
tree	little	sing
blue	pig	porridge
bird	big	jump
four	mother	read
yellow	coat	red
squirrel	boy	meat
green	small	down
sick	shoe	run
six	father	come
dog	farther	corn
duck	girl	here
ten	lady	her
then	large	go
blue	baby	dinner
wheat	dress	walk
white	John	talk
dig	tall	goat

n. *Test comprehension of total meaning of selections longer than one sentence.* For this, use words well within the visual vocabulary of children. Riddles like the following are used as silent reading material. The tendency to respond with fragments of meaning or to leave out certain important elements may be corrected if similar practice exercises follow the use of this informal test.

1

I am thinking of an animal.
It has a long tail.
It cannot swim.
It has two legs.
It can walk.
It can fly.
It is bigger than a sparrow.
It is not a blue jay.
It is not a robin.
It is black all over.
It likes corn.
It says caw caw.
What is it?

2

What is it?
It is not black.
It grows.
It has many blades.
It is like a carpet.
It covers the ground.
It grows in spring.
Sheep eat it.
Men cut it.
Chickens like it.
The hot summer sun burns it.
The snow covers it.
What is it?

INFORMAL TESTS FOR THE PERIOD OF RAPID GROWTH IN FUNDAMENTAL READING ATTITUDES, HABITS, AND SKILLS

(Second and Third Grades)

Many of the suggestions given for the first grade are applicable to the second grade as well, if adapted to second-grade materials, interests, and abilities. It is well to use informal tests which have easy, satisfying responses. The unnecessary use of written responses is likely to interfere with the satisfaction to be derived from reading. The strain and time expenditure involved in tests which require writing and spelling may be reduced without loss. The following illustrations are chosen because they are somewhat different from those already given.

a. *Test comprehension and ability to select pertinent or relevant ideas.* Directions to pupils (on blackboard or on a card accompanying sentences or sentence cards):

1. Select (or mark) the sentences that are true about *rabbits*.
2. Pick out the ones that are true about *trees*.
3. Pick out the sentences that are true about *children like you*.

(If sentences are on the blackboard and numbered, pupils may be directed to draw a rabbit and put under it the numbers of the sentences that are true about rabbits, etc.)

1. They have long ears.
2. They have a great many limbs.
3. They love to play games.
4. They can sing pretty songs.

5. They have soft warm fur.
6. Some of them have beautiful pink eyes.
7. Some of them have curly hair.
8. Some of them have green needles.
9. Some of them have leaves.
10. They live in holes in the ground.
11. Some of them are hundreds of years old.
12. They have very short tails.
13. They have four legs.
14. They have two hands.
15. They have roots under the ground.

Variations: Similar exercises may be used with phrases or sentence endings or with content based on group interests or experiences. These may be placed on phrase cards, on the blackboard, or on hectographed or mimeographed sheets.

Directions: Mark or pick out the true endings.

The Indians of long ago times

had homes like ours.	had to hunt for their food.
lived in castles.	bought everything in stores.
lived in wigwams or tepees.	used sign language.
rode in automobiles.	had war dances.
wore clothes made of animal skins.	used money like ours.
lived in big cities.	made ships of steel.
used bows and arrows.	made canoes of birch bark.

b. *Test ability to follow directions, get the thread of the story, and express meanings in simple drawings.* (1) Draw a picture to show what the old woman's magic brought to the hungry little girl. (2) In your second picture show what became of the goat's heart. (3) Now show where the little girl was when the prince came. (4) Show how the story ends.

Such directions require real grasp of story content and are far superior to arbitrary directions not based on reading material.

c. *Test thoroughness or completeness of comprehension.* Illustration: "Name *all those* who helped the girl find her way to the castle." In this case four replies were possible. The pupil who named but *one* person showed only partial success and got partial credit.

Other illustrations: "What did the Pilgrims have to eat at the feast?" "What did the poet Whittier do in the summer when he

was a boy living on a farm?" In each case there are several items to be given.

d. *Test pupil's grasp of relationships or of the modification of meaning which depend on prepositions and other modifying words* (practice in accurate comprehension and imagery). Exercises containing numerous modifiers are used. Pupils read the directions through before beginning to draw, and refer to them while drawing.

The same purpose may be served by using exercises like the following, based on stories or activities. After reading the story silently, the pupil receives an envelope containing the following questions and answers, each on a separate card. He is told to arrange the questions with appropriate answers, eliminating superfluous or untrue answers. The cards are purposely mixed and some answers occur twice.

- (1) Who had the right to eat all the meat that fell to the floor?

Who gave him that right?

Who destroyed the paper?

Who caused the trouble between the cats and dogs?

The queen

The prince

The king

The mice

The dog

The rats

The cat

The mice

- (2) Directions: Find the right beginning for each ending or vice versa.

(Beginnings and endings are shuffled. Careful selection of test sentences should eliminate endings which cause confusion.)

The Indians	planned the first Thanksgiving Day.
The Pilgrims	were asked to come.
The mothers	carried home wild ducks and turkeys for the feast.
They all	gathered plums and grapes.
The children	brought five large deer.
The fathers	made bread and cake and pumpkin pies.
The Indians	thanked God for his goodness.

e. *Test accuracy of perception.* Each child is provided with a pack of cards containing similar words. He is to sort out the cards into three piles. The first pile is for words that are just alike; the second is for words that mean about the same thing but are not exactly alike; the third is for words that look much like the other words but mean something entirely different. The ease with which the child differentiates is as significant as the accuracy with which the words are sorted.

The following illustrative lists show the words when properly sorted. Notice that some words are repeated. Hesitancy in the recognition of these words is extremely significant.

1. come	came	cone
come	comes	cane
come	coming	canning
come		care
come		cave
come		cunning
come		cared
		cares
		comb
		common
2. begin	began	belong
begin	begun	being
begin	beginning	belong
begin	begins	behind
begin	beginnings	before
begin		beyond
		because
		became
3. thought	think	thank
thought	thinking	though
thought	thoughts	tough
thought	thoughtful	through
thought	thinks	taught
		thou
		thin
		brought
		truly
		thankful

Variations: (1) After this exercise, the cards may be shuffled and pupils may be asked to find all the words that begin with *th*, or all words that end with *gh*, etc. (2) The same cards may then be laid out and pupils may be asked to select words that fit in certain unfinished sentences like the following:

The meat was _____.
 I _____ he was a kind man.
 Walk _____ the garden with me.
 I wonder who _____ of that.

f. *Observe and record the cases of finger pointing, vocalization, or lip movement.* All of these are indications of immature habits which retard rate. Incidentally, notice which pupils cannot keep their minds on reading long enough to complete the assignment without wandering attention. Notice also which pupils make forward or lateral head movements while reading, instead of holding their books at a uniform distance.

Without informing the children of your purpose, observe them, carefully recording your observations on a prepared record sheet for future reference. Your record sheet should contain the names of all pupils arranged according to seating. Date your sheet and save it for comparison with a later dated record. Use code to record observations, for example:

P—pointing

L—lip movement

V—vocalization

H—head movement

W—wandering attention

E—signs of eye strain, as, for example, frowning, book held too close to eyes, eyes rubbed, etc.

Underline the code letter when you find the habit in marked degree.

Soon after the test, work for elimination of the habits, and re-test on a number of occasions. Do not announce your purpose on the re-test lest the pupil's responses differ from habitual reactions.

g. *Test the span of recognition and discover which pupils need extra practice in phrase flashing to increase the span or number of words taken in at glance.* Phrases of the same or increasing length are flashed or exposed for about one-half second. Teachers should try to keep the exposure time constant. The pupil tells or writes what he sees. (For occasional test purposes, a response in terms of word-calling or writing is permissible.)

The score on each phrase is the number of words seen at one flash. Errors in spelling should be noted for diagnostic purposes, but not counted on reading errors.

Another method of scoring can be used when pupils are tested individually. The same card is flashed repeatedly until recognized. The score on each card is the number of flashes required for it. In no case should the length of exposure be prolonged. The lengthened exposure defeats the purpose of the test. The vocabulary should

in all cases be within the experiences of the pupil. Training similar to that of the test may be based on phrase exercises related to reading matter. The test itself should not consist of related phrases.

h. Use silent reading tests in connection with much of the silent reading in which pupil groups or whole classes engage. If extensive reading is to be used as a means to the establishment of sound habits and a partial substitute for intensive instruction, there should be some guarantee that pupils are actually reading. Systematic comprehension checks, based on material which pupils read silently, should be carefully prepared in advance. This throws the responsibility squarely upon each pupil and gives the teacher a basis for the selection of pupils who need special help and of pupils who are sufficiently able and reliable to proceed to larger reading responsibilities and opportunities. The systematic use of such informal tests is the best means of preventing the deterioration of good habits and the formation of bad habits which lead to serious deficiency.

The following examples of continuous checks on group or individual silent reading are selected from the Lincoln School Experimental Materials.

I. "Cover the sentences that do not belong to the story (*The Stone in the Road*)."

1. Once there was a very poor man.
Once there was a very rich man.
2. There was a road beside his house.
There was a road behind his house.
There was a road in front of his house.
3. He was sad to see idle persons.
He was sad to see people ill.
4. He put a stone in the middle of the road.
He put some stones beside the road.
5. The stone was moved by a man with a cow.
The stone was moved by a farmer.
The stone was moved by the miller's boy.
The stone was moved by the rich man's son.
6. Under the stone he found a piece of gold.
Under the stone he found a pot of gold.
Under the stone he found a pot of silver.

(Winston II, pp. 61-64.)

(A marked copy of the test is used as a scoring form.)

II. Mark the right endings.

Robinson Crusoe

(Chapters 20, 21, and 22.)

One morning Robinson
made fine candles from the tallow
saw five canoes on the shore
saw five campers on the beach

He went to the hilltop and saw
a great ship at anchor near-by
a great many canoes farther out
a great many men on the shore

One of them
became his servant
was an old friend of his
was tied to a post

He found that
they had come from England
they had come from the mainland
all the tribes were friendly

Friday was
a very stormy day
the day after this trouble
a young savage

Friday had
never been a lucky day
never worn clothes before

Friday soon learned
many things from his master
that the big ship was wrecked

Robinson told Friday
to go back to his tribe
how lonely he had been
to stay in the corner

Friday trembled because
he was afraid of a whipping
he was afraid of Robinson
he was afraid of lightning and thunder

Robinson told Friday
that God was angry
that God was a loving father
to answer when he was called

Score _____

Things to do when you have marked all the right answers:

Copy the words that tell the truth:

Friday's skin was white, yellow, dark.

Friday slept in the castle, cave, tent.

Draw a picture to show what Robinson saw from the hilltop.

There follow illustrations of exercises used as 'chapter checks.' These are devised for Chapters II, VIII, IX, X, and XXIV of Bingham's *Merry Animal Tales*¹ and Chapter II of Perkins' *The Dutch Twins*.

Merry Animal Tales

Chapter II

Read to find out:

1. Who decided to have the rat meeting?
2. What was it about?
3. What did they plan to do?
4. How did the meeting end?
5. Who carried out the plan?

Chapter VIII

Star the correct answer:

1. (a) Mrs. Blackrat had a way of saying "Yes" and never doing the thing she said she would do.
- (b) Mrs. Blackrat had a way of saying "Don't" and "No" and then at last doing the very thing she said she would not do.
- (c) Mrs. Blackrat had a way of saying "No" and never doing the thing she said she wouldn't do.
2. Blackie went on a visit
to the country
to the lion
to Madison Square
3. While the mistress was playing, Blackie sat
on the piano
in the corner
under the bookcase
4. Blackie was frightened by
the music
the rain
the slam of a door

¹ Contributed by M. Taylor, Swarthmore, Pa.

5. He ran
down into the cellar
up the garret steps
home

Chapter IX

What are the missing words in the sentences?

1. Father _____ told Blackie all about traps.
2. When _____ visited the pantry, he saw queer little _____ with an open _____ and the biggest, nicest piece of fresh _____.
3. Blackie went down the chimney of the little _____ and sure enough it was a _____.
4. Little mistress _____ opened the door and out skipped _____ and up the _____ he went.

Chap. X

Which statement is true?

1. To everything Blackie wanted to do, Mrs. Blackrat said
yes
don't
please
2. Blackie ate his picnic dinner
under the corn stalks
under a rock
on a rock
3. Mrs. Blackrat said: "You ate so much corn that
I am sorry."
I am ashamed."
I am cross."

Chap. XXIV

Place a check mark after each statement which is true.

1. A fox can climb a tree.
2. It was well for Mr. Fox to hunt the turkeys in the moonlight.
3. A fox is afraid of a dog.
4. Foxes are never untruthful.

The Dutch Twins

Chap. II

Directions: Below each question place the correct answer. You will have three answers left over.

1. In what did Father Vedder carry his vegetables to market?
2. What crosses the fields of Holland like roadways?
3. What do the canals which flow through the town make?

4. What did the twins help their father do?
5. With what vegetables were the baskets filled?
6. When was the boat loaded for market?
7. What did Mother Vedder make for supper?
8. What tells you it was morning when they started for market?
9. What nodded to them from the canal bank?
10. Where did the stork have her nest?
11. Where did they see a woman washing her clothes?
12. What was the captain's boat like?
13. What is an open square with little booths and stalls about it called?
14. Where did Father Vedder carry his vegetables when he unloaded them from his boat?
15. What did Kit sell?
16. What did Kat sell?
17. What did the twins buy with the money which their father gave them?

The replies, which follow, should be spaced more widely on typed cards, cut apart and filed for repeated use if the teacher wishes to avoid uncontrolled written answers.

Boat
 Water streets
 Cabbages, onions, beets, and
 carrots
 Buttermilk porridge
 The blossoms of the flax
 flower
 A floating house
 To a booth or a stall
 Ten onions
 A wagon
 Birds

Canals
 Wash the vegetables and
 load the boat
 Late in the afternoon
 The grass was all shiny
 with dew
 On the chimney
 In the canal
 Market place
 A cabbage
 St. Nicholas dolls
 In a tree

INFORMAL READING TESTS FOR THE INTERMEDIATE GRADES

During this period, informal tests should frequently require the grasp of longer units of meaning than the sentence or paragraph. Pupils should be asked to give brief oral or written reports or summaries of books which they read independently. On books of general interest, informal class tests may be planned to cover each chapter, a number of chapters, or the whole book. Rate tests may be combined with the reading of such books. Children who do poorly on these should be tested on such fundamental aspects of reading

ability as perception span, rate of oral reading, breadth of vocabulary, ability to recognize and differentiate words, rate of silent reading, phrasing (ability to break up paragraphs or sentences into proper meaningful groups), ability to follow directions, to reproduce content, and to answer questions upon material read. Both informal and standardized tests may be used for this purpose. Remedial work may be necessary for pupils who give evidences of deficiency in informal and standardized tests.

Because extensive silent reading of easy material is so conducive to the elimination of evidences of immature and faulty habits, and because the early part of this period is a transition point in which a variety of silent reading habits should begin to be formed, many informal tests should be used to make sure that pupils are comprehending adequately and to locate causes of reading difficulty. Checks on the quality of silent reading eliminate the formal oral recitation at this point, where oral reading should be used sparingly and only when there is a real motive and a genuine audience situation.

Suggestions follow for carrying out seven types of informal tests pertinent to this period.

a. *Test the ability to anticipate meaning.* Pupils read part of a story. At a turning point in the plot they are asked to stop and write down possible endings. These are then checked with the real ending, in a group discussion. Or the teacher reads a story and stops at intervals to ask a question concerning portions of the story yet to come. The pupils write their answers.

b. *Test the ability to locate information.* This test is given with books open. The pupils may respond by giving the three opening words of the paragraph in which the information is located, or by giving the page or paragraph reference. Thus the amount of copying and writing may be reduced. Or pupils may stand when they find the material on a given topic. When many of the pupils have located the material, the information may be worked into a blackboard outline before the next topic is assigned. Such tests, or exercises, are most valuable when based on subjects which pupils are studying at the time. The questions should be based upon a use of the index, appendix, table of contents, chapter headings, subtitles, illustrations, maps, tables, footnotes, and cross references. Teachers should al-

ways locate the information themselves while planning a test of this sort, so that they may realize the nature of the difficulties which the pupils are likely to encounter. The test may necessitate the use of more than one book. A simple assignment is:

Locate information on these topics:

1. Cotton-growing countries.
2. Cotton-growing states of our country.
3. Size of United States' cotton crop.
4. Size of world's cotton crop.
5. Insects which harm the cotton crop.
6. Places where long staple cotton grows.
7. Cotton-seed products.
8. Cotton ports.
9. Cotton mills.
10. Cotton produce.

c. Test the ability to select the central thought or main idea in each of series of paragraphs.²

1. Read the following paragraph³ and then draw a line under the two words which best describe what this paragraph is about:

pouring water heating stones boiling water making fire

There is an interesting way to make water boil for the cooking of food, which is in use among many savage tribes to-day. They fill a large jar with water. Stones are then heated in a fire and dropped into this jar. The heat which they give off makes the water boil and cooks the food.

2. Draw a line under the sentence which best tells what the whole paragraph is about:

No one takes better care of his dress than a bird. Every day, with most birds, it is washed and carefully dried. Each feather is passed through the bill and the whole is thoroughly shaken out. Besides washing and drying the feathers, birds need oil to keep them in good condition. We often see ducks oiling their feathers before a rain.

3. Read the paragraph and draw a line under the words which will best tell how to keep milk sweet:

take it on a trip to Italy
boil it
keep it in open bottle
bottle it with great care
mix it with water

² See *Second Yearbook of Department of Elementary-School Principals*; N. E. A. Illustrations by Elda Merton, pp. 348-9.

³ This and the following five paragraphs were prepared by Dorothy Van Alstyne, Teachers College, New York City.

A Boston doctor started from home several years ago for a trip to Italy. He took with him several dozen bottles of milk and opened one every day for three weeks. The last bottle opened in Italy was as sweet as the first. The reason was that bacteria in the air could not get to the milk. Nothing was done to the milk except to bottle it with great care.

4. Read the paragraph and then draw a line under the words which best tell what the paragraph is about:

- Milk is a valuable food
- Milk is good for children
- Milk contains fat
- Milk is not good for adults

Milk is often called the perfect food because it contains all the things needed by the body. One can live for a long time on milk alone. This is not true of any other food. It is a valuable food for all persons, and one of the best we have in sickness; but it is not good as the only food for healthy adults or for school children.

5. Read the paragraph. Then draw a line under the word which tells how the little dog felt:

- sad afraid lonely happy weary

The dog ran up to greet a man as he came up the path. He wagged his tail joyously and barked in short excited barks. The man leaned down and patted the dog on the head. Then he rolled up the paper that was under his arm and gave it to him. The dog ran with it up the path toward the house, his tail wagging all the time.

6. Read the paragraph. Draw a line under the words which best tell where you would keep a growing plant in winter:

- under the trees
- in some water
- in a temperature below 42 degrees
- in a temperature above 42 degrees

All plants stop growing when the temperature falls below 42 degrees. They begin again whenever the temperature rises above 42 degrees. If, in any way, we could in the winter raise the temperature above 42 degrees for a week or two, the buds on the trees would begin to swell, the seeds would sprout and the leaves might unfold.

d. Test ability to organize a paragraph by supplying a topical heading and outlining the supporting details.⁴

e. Test the ability to recognize equivalent ideas when expressed in altered form or changed wording, or to detect different ideas with like wording. A test of this sort selects pupils who do not assimilate ideas, but merely try to take them in verbatim. It should be based on content material like that which children use in study periods.

⁴ For illustrations see Elda Merton and Ernest Horn, *Second Year-book, Dept. of Elementary-School Principals*, N. E. A., p. 359.

f. *Test the richness of a pupil's vocabulary of meanings and his ability to distinguish shades of meaning.*

Illustrations:

1. Write words which describe a circus parade, an accident.
2. Write *never* at the top of your paper. Write *always* at the bottom. What words would you put between the *always* and *never*? Make a ladder of words which leads from *always* to *never*. You may have two minutes to do this.
3. Write phrases which fit between the following extremes. See how many you can write.

exceedingly small	exceptionally large
unusually early	extremely late
somewhat surprised	simply astounded
4. Write opposites for the following phrases:
 - kind and obliging—
 - exceedingly fortunate—
 - absolutely harmless—
 - in festive attire—
 - without fear—
5. Make phrases that mean about the same as those in 4 above, but use different words.

g. *Discover the level of attention at which pupils are working and raise the level of attention.* Give an assignment and let children work for a given time. Collect papers. Tell them that you wonder whether they can do better. Tell them to try the same task again and say that, if the second set of papers is very much better than the first as a whole, they may have a certain privilege. Give the same time limit and note improved quality of work and improved attention. Give no help during the test. Report to pupils as soon after such a test as possible and keep faith with them. Suggest that those who made greatest improvement work at that level of attention more often, but commend those who did well on the first trial.

INFORMAL TESTS OF SPECIFIC READING HABITS OF THE WORK TYPE

A great deal of the purely recreational reading may well be done independently and at home; the time for reading may then be reduced and informal tests may be used to develop effective study technique and procedures with the informational material of other

school subjects. Where departmental organization is maintained, such work should be done in co-operation with special teachers.

a. *Test ability to read arithmetic problem material and give significant words due consideration.* Illustrative material follows that has been prepared by Miss Clara Wills, Gallatin, Missouri.

General directions

1. Have as many pairs of exercises as there are pupils in the class.
2. Give each pupil one pair with the following instructions either on a paper or written on board.
 - a. Have sheet of paper ready.
 - b. Place name on paper.
 - c. Read the problems through.
 - d. State clearly in a sentence each difference you find between the problems.
 - e. Number your answer to match the paper.
3. Have pupils exchange problem slips and work another pair of exercises.
4. Have pupils work in pairs, compare, and read exercises again for verification.

I

1. Grace promised to pick 30 quarts of blueberries for her mother. She has picked $18\frac{1}{2}$ quarts. How many more quarts must she pick?
2. Grace promised to pick 30 quarts of blueberries for her mother. She has $18\frac{1}{2}$ quarts more to pick. How many has she picked?

II

1. If a gallon of paint is enough for 160 square feet, how many gallons will be required to paint both sides of a board fence 4 feet high and 260 feet long?
2. If a gallon of paint is enough for 160 square feet, how many gallons will be required to paint one side of a fence 4 feet high and 260 feet long?

III

1. Helen promised to read a book of 150 pages on gardening. She has read 45 pages. How long will it take her to read the rest if she reads fifteen pages an hour?
2. Helen promised to read a book of 150 pages on gardening. She has 105 pages more to read. How long has she read if she reads 15 pages an hour?

IV

1. George has \$50 in the savings bank. The bank pays him 4% a year for the use of his money. How much does he get a year for the use of his money?

2. George has \$50 in the savings bank. The bank pays him 4% a year for the use of his money. How much does he get in three years for the use of his money?

b. *Check comprehension of maps and related reading matter.* An exercise based on the use of an outline map of New York and another based on the use of an outline map of South America will afford illustrations.

The teacher gives each pupil an outline map of New York State. Brigham's *From Trail to Railway*, ch. V, is available for reference. Blackboard directions are as follows:

I

1. Put in names of two lakes.
2. Show the Hudson River by a line.
3. Put in Clinton's Ditch, using dash-dot line.
4. Put a "dot" and letter "G" for the city that is the gateway to the east and west.
5. Put in a star to show where the city is from which Clinton's first train started.
6. Draw a line from the star showing which way the train went and about how far.
7. Put in initial of city at end of that line.
8. Draw a line with a dot at each end showing another railroad which was built near Clinton's Ditch later.
9. Draw in a heavy line where the New York Central now runs.
10. Show with the letter "W" and a dot where Washington's headquarters were during the Revolutionary War.
11. Show what the New York Central did when they found they needed more tracks and found there wasn't any room beside their tracks along the Hudson.

After the children finish this work, the teacher tells them that if they are satisfied with their papers they may hand them in. If not, they may make another effort, using their books. The first trial receives double credit, while the second receives half as much. This is an incentive to do the thing right the first time. The children who make a second paper are asked to write a big "two" at the top of the second paper and hand in both papers.

II⁵

Carpenter's *South America*, Ch. 22, is given for silent reading in class. At the end of six minutes, pupils are asked to mark the place where they stopped reading.

Outline maps of South America, with the boundary of Argentina and neighboring countries indicated, are then given the children with the accompanying directions:

1. Write the name of the country we are visiting on the line under the map.
2. Draw a circle around the part of Argentina we will pass through first.
3. Put a large *S* where you will find sugar cane growing.
4. Put a *D* where the land is almost a desert.
5. Put a *W* where wheat is grown.
6. Write the word, Andes, where you would expect to see these mountains.
7. Draw an arrow to show in which part of Argentina her immigrants would arrive.
8. Draw a line showing our trip from our starting point to our stop to visit the Welsh shepherds.
9. Draw a line under the name of the chief port on the Atlantic coast.
10. Put a star (*) where Buenos Aires is located.
11. Draw a double line to show the completed part of the railroad through Patagonia and a single line to show how this road will finally be extended.

d. *Detect careless readers and show them the need for careful reading of informational material.* The following material, contributed by W. J. Osburn, is intended for use with high-school classes.

Great Britain

During the nineteenth century Great Britain did not experience any of the sudden revolutions which appeared in nearly every other country of Europe. For centuries, England, Scotland, and Ireland had possessed representative institutions. When reforms were needed, they were adopted gradually, by the natural process of law making, instead of resulting from rebellion and revolt. In this way Great Britain had been changed from an aristocratic government to one founded on democratic principles. By 1884 the suffrage was nearly as extensive as in the United States. Parliament became as truly representative of the people's will as our American Congress. Far-reaching social reforms were adopted which advanced the general welfare.

⁵ Prepared by Marene W. Snow.

Great Britain was the first nation to experience the advantages and disadvantages of the new age of coal and iron, and the new methods of factory production. Her wealth and commerce grew at a rapid rate, and she invested her profits in enterprises in many parts of the world. The factory system drew so many workers from the farms that Great Britain no longer raised sufficient food for her population. She became dependent upon the United States, Australia, South America, and other lands for wheat, meat, and other necessities of life. Her merchant vessels were to be found in all parts of the world; and her navy was increased from year to year to protect her commerce and colonies. From now on it became evident that England's existence depended upon her ships. If in time of war she lost control of the seas the enemy could starve her into submission. Hence during the nineteenth century Great Britain's policy was to maintain a fleet stronger than that of any possible combination against her. (From "School History of the Great War," page 21.)

Questions

1. Did Great Britain experience any sudden revolution during the 19th century?

Yes	No	Didn't say
-----	----	------------
2. Was most of Europe at war during this century?

Yes	No	Didn't say
-----	----	------------
3. Were reforms adopted slowly in Ireland at this time?

Yes	No	Didn't say
-----	----	------------
4. Was the United States at war during this period?

Yes	No	Didn't say
-----	----	------------
5. Were far-reaching social reforms adopted?

Yes	No	Didn't say
-----	----	------------
6. Was the new age of coal and iron entirely advantageous to Great Britain?

Yes	No	Didn't say
-----	----	------------
7. Was Great Britain now able to pay all of her national debt?

Yes	No	Didn't say
-----	----	------------
8. Did Great Britain raise sufficient food for her people after this period?

Yes	No	Didn't say
-----	----	------------
9. Does existence depend upon her factories?

Yes	No	Didn't say
-----	----	------------
10. Does it say that an enemy might starve Great Britain into submission?

Yes	No	Didn't say
-----	----	------------

Explain to the pupils that the answer to each question is either "yes," or "no," or "didn't say," and ask them to draw a line under the answer

which seems to them to be the correct one. It is intended that the pupils shall answer the questions with their books open. They may read the selection over again if necessary in order to decide on the correct answer.

THE ADVANTAGES OF INFORMAL TESTS

There are numerous advantages to be derived from the frequent use of informal or unstandardized tests. These advantages are such that the informal tests serve certain purposes which standardized tests cannot serve.

Informal comprehension tests are useful as an index and a guarantee of mental activity on the part of all pupils during silent work-type reading. When carefully planned and based on current class readings, they enable the teacher to ascertain quickly which points are clear and which ones need clarification by group discussion, explanation, vocabulary work, or re-reading. Their use is conducive to the formation of habits of thoughtful reading.

By study of the results of such tests teacher and pupil become aware of the nature of specific difficulties. Thus, informal tests furnish data which are of use in the organization of flexible groups for training lessons to meet individual differences for which provision must be made. They also make it possible to chart measurements taken at brief intervals to show pupils their own progress. Such graphic records are a stimulus to effort and supply an objective basis for school marks.

By the use of informal tests it is possible to hold all pupils accountable for the comprehension of assigned readings without necessitating the uneconomical expenditure of time for oral questioning. The volunteer responses received always allow some pupils to evade responsibility in part or entirely.

If each informal test is framed in the light of the objectives or purposes which determined the reading, teachers may ascertain to what extent the objectives of assigned study were attained. They may also judge the significance or fairness of their assignments and the comparative difficulty of subject matter. There is every reason to believe that some tests are in themselves valuable reading and learning experiences. By their use much time otherwise devoted to formal training or recitation may be legitimately saved for real socialized experiences in extensive reading or other worthwhile activities.

Informal tests permit greater freedom in the choice of reading matter. If tests or checks are at hand, it is not necessary for all pupils to read the same thing. Each can be tested on what he has read.

Numerous informal tests may be arranged to cover a wide range of objectives. Teachers may thus be led to test for some of the significant aims and values not included in standardized reading tests. It should be noted that the prime purpose of informal tests is emphatically *not* to prepare or coach children for standardized tests. This statement is made because of the erroneous notion that standardized tests are formidable and that it is legitimate to prepare for them as for old type examinations. When used after such preparatory coaching, comparison with norms obviously loses all significance.

CRITERIA THAT INFORMAL TESTS SHOULD SATISFY

1. It is absolutely essential that informal tests be more than silent reading devices. They should be carefully planned with reference to a broad range of aims and objectives, because the types of tests and responses required condition the character of the pupil's mental activity and quality of attention. Informal tests should be varied enough to guard against narrow aims or the over-emphasis of certain types of reading experiences at the expense of others.

2. Informal tests should, whenever possible, be based on significant, worthwhile reading matter. Tests based on unrelated sentences, and containing irrelevant and arbitrary directions, are not suitable vehicles of instruction. The effects of training based on such exercises are not so likely to spread or transfer that they warrant great expenditures of time or effort. It is far more economical to base informal tests on what children read, than to frame paragraphs or set up sentences in order to base tests or questions upon them.

3. The technique of informal tests should be simple and easily explained to pupils. Whenever possible, the technique should be self-explanatory, in order that there be the least possible expenditure of time in explanation of procedure and that there be the least possible liability of confusing the pupils. The responses should be well within the maturity and abilities of the pupils and should not

necessitate undue effort or time either on their part or that of the teacher.

4. Whenever possible, the test itself should be a learning experience in which every pupil is thrown on his own responsibility.

5. The scoring should be so objective that the pupil realizes the fairness of the test and can almost always score his own work or that of other pupils by reference to a key.

6. The pupil should be made aware of the purpose of each test, of the significance of his success or failure, and in the latter case, of some means of improving his powers.

7. Success in tests should give pupils satisfaction and be rewarded by other reading privileges and responsibilities.

8. Tests should be framed and conducted to avoid temptations to copy, to guess, or to resort to other irrelevant cues.

9. The nature of each test should be adapted to the reading matter on which it is based. Questions of fact and analysis are inappropriately used with literary material.⁶ Where appreciation is the desired end, such tests are not in place. Comprehension of sequence, of plot, or of total meaning cannot be tested or developed by means of questions that dwell on insignificant detail. Thus, tests must ascertain whether pupils are reading with the mind-set appropriate to the specific material.

TEACHERS MAY PROFITABLY CONDUCT AND USE INFORMAL TESTS

From the criteria just listed and the illustrations which appear in this chapter, teachers who wish to construct informal tests may see what types of response and reactions are economical and appropriate. Adaptations of these techniques and procedures to other materials will serve the same purpose only when that purpose is clearly grasped and embodied in the adaptation. The illustrations also show that tests may be so made that scoring is easy and rapid. In many cases pupils profit by exchanging papers or scoring their own work under supervision. Scoring forms or answer sheets should be filed for future use.

Periodic informal tests need not increase the burden of instruction. On the contrary, experiment shows that they actually simplify the teacher's problem and increase the effectiveness of instruction

⁶ See Chapter IV.

in a way which saves time, otherwise spent in recitation, for the unhampered enjoyment of extensive reading, dramatic expression, real discussion, and audience reading. In order to function in this way, informal tests must be an organic and vital part of the reading program.

Certain types of informal reading tests are now purchasable. Some of the newer reading books contain informal tests on content material, or checks on comprehension.

A progressive reading program is so broad and its aims are so diverse in nature, that attainment must be studied with reference to numerous specific objectives. Only thus can individual and group needs be revealed and served effectively. Constant study of pupil progress is the essential function of the teacher. A regular checking on a well selected range of objectives would do much to reduce over-emphasis on narrow aims or the uncritical adoption of ready-made 'methods' or 'devices.' Undue use of devices unrelated to sound aims and principles of procedure too often results in superficial work and reduced learning values. Variations in test procedure have been presented purposely to show how some purposes may be served in more than one way and to emphasize the subordination of the means to the end, and the subordination of testing to sound and inclusive aims. The informal tests in this report have been selected for their illustrative value. They must be studied, not as models, but as suggestions for constructive work along similar lines. The teacher will find further help in the references cited at the end of this chapter.

B. STANDARDIZED READING TESTS

Those who are seriously concerned with the improvement of instruction in reading cannot fail to realize the need for some tests or measures by means of which the reading abilities of pupils in particular situations can be compared with those of unselected groups. When such comparisons are to be made, it is essential that the tests or measures be so prepared that they may be given later and elsewhere under identical conditions and scored in exactly the same manner. The process by means of which tests are made acceptable for such use is called standardization. The process of standardization reduces to a minimum those factors which would

make comparisons unfair or unreliable. Teachers and lay critics sometimes do not realize the necessity of holding to standardized directions for giving and scoring the tests and therefore take liberties with procedures which they consider unnecessarily didactic or otherwise poorly adapted to given situations. Even when made with the best intent, such variations vitiate the value of comparisons and invalidate conclusions based on the test results.

Teachers and pupils should come to think of standardized tests as impersonally as one thinks of measurements of height. Administrators can do much to foster this attitude and are perhaps somewhat responsible for the attitude of anxiety which causes teachers and pupils to react unfavorably to tests. The interpretation of standard test results requires not only tact, but also insight into the limitations of a single measurement. Neither the pupils' progress nor the teacher's efficiency can be fairly judged by one test unsupported by other data. Furthermore, many of the significant outcomes of instruction are not measured by existing tests. Supervision which depends too largely on test results, skews teachers to an over-emphasis on the narrow range of objectives represented in the tests. Nevertheless, when properly used, interpreted and supplemented with other information, standard tests are exceedingly valuable.

BASES OF TEST SELECTION

Other things being equal, cost may well be the determining factor in the selection of reading tests. But other things are seldom equal and value is not always highly correlated with actual cost. The following factors should be considered in the selection of standardized reading tests:

1. The test should be a valid measure of some significant type or aspect of reading ability.
2. If a test measures only one aspect or type of reading ability, it should be supplemented with another reading test which measures another aspect.
3. The test should be available in at least two so-called equivalent forms, in order that re-tests may be given at appropriate intervals without reducing their significance by practice effect.
4. The reliability of the test and the derivation of norms should

be considered. These are usually reported in the manual of directions.

5. The norms should be sufficiently precise to be of value in interpreting individual scores and should be stated in a form which permits comparison with other reading tests, subject tests, and measurements of pupil capacities.

6. The standardized directions for giving and scoring the test should be definite, easy to follow, and economical of time and effort.

CARRYING OUT A TESTING PROGRAM

In giving standardized reading tests the following considerations should be taken into account:

1. Teachers should be informed of the proposed testing program and of the conditions upon which its success depends.

2. Standardized directions should be followed in detail.

3. If the tests are given twice a year, in October and May, the attitude and work of teachers is improved. The teacher who has a class which scores low in October, has an opportunity to show her effectiveness by the growth record rather than by the test scores themselves.

4. A testing program should be followed by a report to pupils and teachers.

5. When test results have been reported, teachers and pupils should receive practical help and suggestions by means of which improvement may be secured.

6. Problem cases should be studied by means of additional tests, diagnosis, and remedial work.

7. The test scores should be considered in reorganizing the classes and forming flexible groups for reading purposes.

8. Other factors not measured in standardized tests should not be neglected in a sound and inclusive teaching program and in the evaluation of results. Literary appreciation, dramatization, and love of reading are not so easily measured, but are nevertheless significant. Standardized tests do not pretend to be inclusive measures of all reading values.

9. Children of low intelligence cannot be expected to do as well as brighter children. Similarly, children with language handicaps

are often retarded in reading. Intelligence data and other pertinent facts are essential for the valid interpretation of test results.

10. Available norms are based on the average results of prevailing practice, and it is quite possible that such norms will move upward as revised aims, scientific methods, and appropriate materials make themselves felt.

11. Because norms are merely measures of the average achievement of unselected groups, they should be used as reference points rather than as aims or standards.

A CHART OF STANDARD READING TESTS

For ready reference there has been brought together in chart form information concerning the principal standardized reading tests.⁷ The chart shows for each test (1) the name of the test and its compiler, (2) the name and address of its publisher, (3) the grades for which it is designed, (4) the number of forms available, (5) the general nature of the test, (6) the kind of norms supplied, and (7) the method by which the results are interpreted.

⁷ Some of the earlier tests are omitted, but the reader will find descriptions of them in the *Eighteenth Yearbook* of this Society, Part II, pp. 45-49.

Furthermore, for certain experimental and diagnostic purposes other tests will be found useful. Among these may be mentioned: Gates' Word Pronunciation Test (Teachers College, Columbia University); Holley's Sentence Vocabulary Test (University of Illinois); Pressey's Attainment Tests—reading (Indiana University); Thorndike's Visual Vocabulary Test (Teachers College, Columbia University); Woody's Silent Reading Test (University of Michigan).

TABLE OF STANDARD READING TESTS

<i>Title and Compiler</i>	<i>Publisher</i>	<i>Range of Grades</i>	<i>Forms</i>	<i>Brief Description</i>	<i>Norms</i>	<i>Scoring</i>
Ayres-Burgess Picture Scale (May Ayres Burgess)	Russell Sage Foundation, 130 E. 22nd St., New York, N. Y.	III-VIII	Four	Group test of silent reading consisting of 20 approximately equivalent paragraphs with pictures to be marked. No fore-exercise.	Grade norms.	No scoring form. No. of paragraphs correctly marked in 5 minutes is assigned scale scores (0-100) which are points in the normal distribution by grades. Thus, 50 is mid-point, or norm, of any grade.
Chapman-Cook Speed of Reading Cross-Out Test (J. Crosby Chapman, S. Cook)	Lippincott, Philadelphia, Pa.	IV-VIII	Two	Group test of silent reading consisting of 30 approximately equivalent paragraphs of about 30 words each. Response by crossing out one word which spoils total meaning of paragraph. Fore-exercise.	Norms for 10 levels of attainment in each grade.	Pupil scores 1 for every paragraph correctly marked during 2½ minutes. Papers are easily scored. Very carefully standardized.
Jourtis Silent Reading Test (S. A. Courtis)	S. A. Courtis, Detroit, Mich.	II-VI	Three	Group test of silent reading. Yields separate measure of rate, accuracy, and comprehension. Part I, continuous simple narrative. Part II, questions on paragraphs of narrative. Response by writing <i>yes</i> or <i>no</i> . Comprehension is not measured during rate test. Fore-exercise.	Grade norms.	No. of words read per minute is rate score. No. of questions correctly answered in 5 minutes, minus no. of wrong answers, is comprehension score.

Detroit Group Test in Word Recognition (Eliza Oglesby)	World Book Co., Yonkers- on-Hudson, N. Y.	I	Ten	Group test consisting of 40 elements of in- creasing difficulty — words and simple phrases placed between columns of pictures. Response by drawing a line connecting the ele- ment with the appro- priate picture. Fore- exercise.	Class scores on a thou- sand point basis.	Score is number cor- rectly marked in 4 min- utes. Test for higher grades in preparation.
Gray Standardized Reading Para- graphs and Oral Reading Check Test (W. S. Gray)	Public School Publishing Co., Bloom- ton, Ill.	1-Set I; II and III-Set II; IV and V-Set III; VI to VIII-Set IV.	Five Five Five Five	Individual tests of oral reading. Progress in rate and accuracy may be measured at inter- vals of one or two months.	Grade norms.	An analysis of the ac- tual errors of each pupil is facilitated by the method of scoring and tabulating results.
Haggerty Reading Examination Sigma I (M. E. Haggerty and M. E. Noonan)	World Book Co., Yonkers- on-Hudson, N. Y.	I to III	One	Group test consisting of two parts, each pre- ceded by a fore-exer- cise. Part I is a direc- tions test of 25 ele- ments of increasing length and difficulty. Pupils respond by put- ting appropriate marks on pictures and words. Part II contains brief questions to be an- swered by underlining <i>yes</i> or <i>no</i> . Only in the latter part is there an indirect measure of rate.	Grade and age norms.	Scoring forms provid- ed. Results of two tests may be totaled or in- terpreted separately.

TABLE OF STANDARD READING TESTS (Continued)

<i>Title and Compiler</i>	<i>Publisher</i>	<i>Range of Grades</i>	<i>Forms</i>	<i>Brief Description</i>	<i>Norms</i>	<i>Scoring</i>
Haggerty Reading Examination, Sigma III (M. B. and L. C. Haggerty)	World Book Co., Yonkers-on-Hudson, N. Y.	V to XII	Two	Group test of silent reading. Consists of three parts: a vocabulary test of 50 graded elements; a sentence-reading test of 40 elements; a paragraph-reading test of 27 items, based on 7 paragraphs of increasing difficulty. Each part has a fore-exercise. These tests employ various forms of the multiple choice and true-false techniques.	Grade norms	Each part of the test is scored separately by means of a scoring key. The test yields only indirect measures of rate.
Monroe's Standardized Silent Reading Tests I and II (W. S. Monroe)	Public School Publishing Co., Bloomington, Ill.	III to V and VI to VIII	Two for each test	Group tests of silent reading yielding measures of rate and comprehension. Has fore-exercise. The 16 elements are stanzas or paragraphs followed by directions or questions to be answered by underlining 1 of 5 words. Time allowed, 4 minutes.	Point scores. Reading achievement ages; comprehension and rate norms given separately.	Tables are used for translating raw point scores into age scores or achievement ages.
Stanford Achievement Test: Reading Examination	World Book Co., Yonkers-	II to VIII	A and B	Group test consisting of three parts which together cover the	Age norms with	Careful selection of elements and standardization of tests makes

(T. L. Kelley, G. M. Ruch and L. M. Terman)	on-Hudson, N. Y.	
Stone Series of Narrative Reading Tests (C. R. Stone, A. Buehrmann, and L. Murphy)	Public School Publishing Co., Bloomington, Ill.	III to IX
three main factors involved in getting meaning from the printed page: 1. Paragraph meaning; 2. Sentence meaning; 3. Word meaning. Uses completion method, yes-no, underlining, and multiple choice. Each part has brief fore-exercise. Each form has 194 elements, all of which were systematically constructed and evaluated. Highest reliability on record for group test. Gross time allowance for primary grades, 33 minutes; for upper grades, 48 minutes.	P. E. of scores for each separately or three parts combined. Grade averages and distributions adjusted to exact month of test. Age averages and distributions.	comparisons with Binet mental age and interpretation of performance of individuals or classes exceedingly significant. Scoring keys, age tables, and record blanks provided.
Unique timing device, scoring scheme, and distribution chart make for ready interpretation of results.	Grade norms.	A series of 3 group tests in booklet form. Each contains fore-exercise and tests on two narratives for Grades III and IV; V and VI; VII and VIII respectively. Comprehension score is based on replies to 20 multiple choice questions made on separate sheets, thus booklets become permanent test equipment. Also yields measure of rate in words per minute.

TABLE OF STANDARD READING TESTS (Continued)

<i>Title and Compiler</i>	<i>Publisher</i>	<i>Range of Grades</i>	<i>Forms</i>	<i>Brief Description</i>	<i>Norms</i>	<i>Scoring</i>
Thorndike-McCall Reading Scale for the Comprehension of Sentences (Wm. A. McCall)	Teachers College, Columbia University, New York.	II to XII	Ten	Group test of silent reading. Consists of paragraphs of increas- ing length and diffi- culty. Employs con- trolled answers to questions. Power test involving no measure of rate. Has fore-exer- cise.	Age norms in terms of T- score. Grade norms by half grades.	T-scores 0-100. 50 T equals mid-point in dis- tribution of unselected 12-year-olds. 1 point equals .1 sigma. Inter- pretation is facilitated by tables.

REFERENCES ON STANDARD TESTS ⁸

Those who are particularly interested in critical or comparative studies of tests and test construction or related aspects of investigations in reading will find in the following references much specific matter on such problems:

- Gates, A. I. "Experimental and statistical study of reading and reading tests." *Journal of Educational Psychology*, 12 (September, October, November, 1921), 303-314, 378-391, 445-464.
- Gates, A. I. *The Psychology of Reading and Spelling*. Columbia University Contributions to Education, No. 129, New York; Teachers College, 1922, Pp. vii, 108.
- Gray, C. T. *Deficiencies in Reading Ability*. New York: D. C. Heath and Co., 1922. Pp. xiv, 420.
- Gray, C. T. *Types of Reading Ability Exhibited Through Tests and Laboratory Exercises*. Supplementary Educational Monographs, No. 5. Chicago: University of Chicago Press, 1917. i-65, 172-192.
- McCall, Wm. A. "A proposed uniform method of scale construction." *Teachers College Record*, 22 (Jan., 1921), 31-52.
- Monroe, W. S. *A Critical Study of Certain Silent Reading Tests*. University of Illinois Bulletin, XIX, No. 22, 1922. Urbana, Ill. University of Illinois.
- Wyman, J. B., and Wendle, Miriam. "What is reading ability?" *Journal of Educational Psychology*, 12 (December, 1921), 518-531.

REFERENCES ON INFORMAL TESTS

- Beauchamp, W. L. *A Preliminary Experimental Study of Technique in the Mastery of Subject Matter in Science*. Supplementary Educational Monograph, No. 24. Chicago: Department of Education, University of Chicago, 1923. Pp. 47-87.
- Educational Bulletin, No. 2, Minneapolis Public Schools, Minneapolis, Minn., 1923.
- Gray, W. S. "The value of informal tests of reading accomplishment." *Journal of Educational Research*, 1 (Jan., 1920), 103-111.
- Greene, H. A. "Measuring comprehension of content material." *Twentieth Yearbook of this Society*, Part II, pp. 114-127. Bloomington: Public School Publishing Co., 1921.
- Heller, Regina R., and Courtis, S. A. "Exercises developed at Detroit for making reading function." *Twentieth Yearbook of this Society*, Part II, pp. 153-162. Bloomington: Public School Publishing Co., 1921.

⁸ For an extensive and valuable bibliography on standardized tests and their use, see *Bibliography of Educational and Psychological Tests and Measurements* (Bulletin, 1923, No. 55, U. S. Bureau of Education), compiled by Margaret Doherty and Josephine McLatchy, under the direction of B. R. Buckingham. Consult pp. 76-90 and elsewhere for references on reading.—*Editor*.

- Horn, E., and Shields, C. *Flash Phrasing Materials*. Boston: Ginn & Co., 1923.
- Lyman, R. L. "Teaching assimilative reading." *School Review*, 28 (October, 1920), 600-610.
- Monroe, W. S. *Written Examinations and Their Improvement*. University of Illinois Bulletin, XX, No. 7, 1922. Urbana, Ill.: The University of Illinois, 1-72.
- Monroe, W. S., and Carter, R. E. *The Use of Different Types of Thought Questions and Their Relative Difficulty for Students*. University of Illinois Bulletin, XX, No. 34, 1923. 1-25.
- Parker, S. C. *Types of Elementary Teaching and Learning*. Boston: Ginn and Co., 1923. Pp. 352-356.
- Pressey, L. *Tests to Accompany Supplementary Reading Materials*. Bloomington: Public School Publishing Co.
- Rhodes, E. N. "The technique of silent reading." *Elementary School Journal*, 22 (December, 1922), 296-302.
- Ruch, G. M. *Improvement of the Written Examination*. Chicago: Scott Foresman, 1925. Chs. II, IV, V.
- Smith, N. B. "An experiment to determine the effectiveness of practice tests in teaching beginning reading." *Journal of Educational Research*, 7 (March, 1923), 213-228.
- Stone, C. R. *Silent and Oral Reading*. Boston: Ginn and Co., 1923. Pp. 241, 253-266.
- Zirbes, L., Keelor, K., and Miner, P. *Continuous Checks to Accompany Extensive Reading Materials in the Primary Grades*. Mimeographed Bulletin, The Lincoln School of Teachers College, New York, N. Y., 1924.

CHAPTER X

DIAGNOSIS AND REMEDIAL WORK

Current misconceptions. There are several conceptions of diagnosis and remedial work in reading, and because of current misconceptions and confusions regarding it, these are enumerated.

1. Some workers and writers have considered the problem from the standpoint of survey results. Standardized reading tests are given to all the children of a school system. Papers are scored and results tabulated. Conclusions as to reading status are drawn from a study of scores and tabulations. If certain schools rank low in comprehension or rate according to medians or other measures of central tendency, the findings of the test may lead to a campaign which has as its objective the general improvement of rate of comprehension in a whole system or in the schools or classes which made poor showings in survey tests. This procedure has distinct limitations. It assumes that the first step is a complete program. It assumes that "booster" campaign methods are legitimate substitutes for programs which proceed from an analysis of the situation and direct efforts to discover and remove causes of difficulty.

2. Expositors of a second conception of diagnosis and remedial work use standardized reading tests in another way. The actual responses of pupils are analyzed and tabulated. Some inquiry is made into the nature of the difficulty which causes failure on *each specific question*. Corrective practice is suggested to teachers and pupils on the basis of such test data, but no other factors are taken into account. Classes are sometimes divided into groups with supposedly similar needs for remedial work.

Few standardized tests, however, are suitable instruments for diagnostic analysis. Even the Gray Oral Test, which is the most analytical of this group (standardized reading tests) cannot be used as a complete source of data for diagnostic and remedial work. Measures of "general reading ability" are not primarily diagnostic instruments and were never intended to be so used.

3. A third position is taken by those who avail themselves of standardized group and individual reading tests, but supplement such case data with information on educational history, intelligence,

nationality, reading habits, extent of reading experience, physical condition, attitudes, and class work. Diagnostic inferences are drawn from careful analysis and interpretation of all available data. Remedial work is based on the writings of experimental workers who have reported on their procedure with similar cases.

4. Some practical workers contend that diagnosis is a laboratory affair and that remedial work is out of the question in typical school situations. This extreme position cannot be maintained in view of published reports of successful remedial work accomplished under typical school conditions.¹

There is, of course, room and need for more refined laboratory procedures, cumulative records of case studies, and careful analysis of the complex of traits and abilities which contribute to success or failure in reading and we must look to such work for the further validation of new procedures and a basis for generalizations on diagnosis and remedial work. But this is primarily the function and responsibility of investigators and research workers.

PRACTICAL SUGGESTIONS

The objective of remedial work is removal of deficiency and, while a broadside attack on the total situation may raise the level of attainment in a school system, it does least for those who are most in need and thus misses its real point and purpose. There must be some analysis into the particular causes of deficiency if remedial work is to be highly effective.

It is the purpose of this chapter to bring together suggestions from reported studies in a form which will facilitate ready reference and encourage teachers to make a systematic attack on the problem cases in their own classes. The proposals in this report are, therefore, purposely limited to plans which are practicable under classroom conditions.

¹ Geiger, R. "A study in reading diagnosis," *Journal of Educational Research*, 2 (November, 1923), pp. 283-300.

Waldman, Bessie L. "Definite improvement in reading ability in a fourth-grade class." *Elementary School Journal*, 21 (December, 1920), pp. 273-280.

Zirbes, Laura. "Diagnostic measurements as a basis for procedure." *Elementary School Journal*, 18 (March, 1918), pp. 505-512.

Steps Which Characterize Well Conceived Work with Remedial Cases in Classrooms

1. Discovery of deficiency in the course of classroom activities.
2. More intensive observation and study of the exact nature of difficulties encountered in regular class work.
3. Individual examination by means of personal interview and selected standardized and informal tests with a view to revealing fundamental attitudes and causes of deficiency.
4. Formulation of specific remedial measures which attack the cause of deficiency.
5. Initiation of regular remedial work in a manner to enlist pupil co-operation and effort.
6. Measurement with records, notes on pupil reactions, and study of progress.
7. Adjustment of work to changing needs until deficiency is removed.

A Chart for Guidance in Diagnostic and Remedial Work

To facilitate these steps, the following chart, or tabular analysis, is provided. The items were gathered from published and unpublished case records and diagnostic studies listed at the end of the chapter. Successful remedial work depends on accurate diagnosis and well organized remedial work suited to specific needs. The remedial suggestions here made have all been found effective with *one or more* cases. Almost all of them were formulated for experimental purposes. Their general validity is still to be determined by experiments in which they are given wider application. With such reservations the chart is submitted for use in practical situations where access to sources is not feasible.

How to use the chart. When in search for ways and means for dealing with a given remedial case, look down the Column I, headed "Evidences of Deficiency," for items which apply to the case in question. Then read across the summary to get diagnostic inferences (Column II) and specific remedial suggestions (Column III). Then formulate practice materials in line with the particular proposals in Column III. When cases exhibit a combination of deficiencies, attack fundamental difficulties first or combine remedial suggestions into a working plan. When a number of children have similar difficulties, plan the remedial practice as group work.

TABULAR ANALYSIS OF SUGGESTIONS ON DIAGNOSIS AND REMEDIAL WORK:

A Chart for Classroom Use
(Directions for the use of this chart are on the preceding page.)

<i>Evidences of Deficiency</i>	<i>Diagnosis</i>	<i>Remedial Suggestions</i>
<i>Lack of Fluency and Facility</i>	Actual reading difficulty which points to need of well directed instruction.	Give much practice with comparatively easy material. Make pupil conscious of value of sight vocabulary.
Frequent halts and hesitations during oral reading.	Low stock of sight words.	Provide incentive for accumulating a stock of sight words.
Periods of confusion during oral reading.	Little or no power of word analysis. Material is beyond pupil's ability.	Provide vocabulary training in drill period. Keep records of growth on timed tests, with lists of common words and words asked for while reading.
Numerous requests for help on simple and common words in oral or silent reading.	Failure to accumulate sight vocabulary as a by-product of reading experiences. Insufficient training on sight words.	Provide methods of self-help. Hold pupil responsible for listing words on which he requested help and use them as basis of one drill.
Habitual dependence on others to supply words in oral and silent reading.	Excessive willingness of teachers or parents to supply words as needed. Failure to provide means of gaining independence in word recognition.	Make pupil aware of his dependence on others and show him how to become independent.

Interested in hearing stories but not in reading.

No need for dependence on own ability for satisfactions or reading.

Do not read to the child for a time, except as he assumes some reading responsibility or works at his reading needs.

Such responsibilities are place-keeping, reading an occasional sentence on request or taking regular turns.

Unable to read anything but very simple material, but cares only for material beyond his own reading ability.

Ability to read stunted as a result of being read to too much. Interests and tastes developed and satisfied with no responsibility for growth in ability to read.

Read part of a story, stopping to let pupil read on to see how the story comes out. Condition further reading on completion of the story.

12 Breaks sentences up without due regard to proper word grouping.

Inability to recognize thought units.

Habitual disregard of context cues. Lack of familiarity with typical sentence structures and language forms.

Training in phrasing.

Study for the purpose of grouping words according to thought relationships.

Inability to profit by punctuation marks. Restricted attention span, with inadequate anticipation of meaning. In oral reading, short eye-voice span.

Reads in a stilted manner, calling off words mechanically.
Reads jerkily word by word.
Reads slowly, but not haltingly.
Reads with vocalization or lip movement during silent reading.
Keeps place with finger.
Over-anxious for approval on oral performance.
Excessive elocutionary effect.

Over-difficult material.
Over-emphasis on recognition and ability to call words.
Over analytical instruction.
Procedure has not stressed phrase units. Over-emphasis on oral reading.
Insufficient emphasis on meanings.
Over-emphasis on "reading with expression."

Adjust material to pupil's ability.
Approve only reading which sounds like natural talk or conversation.
Give phrase flashing with response in terms of meaning.
Prevent vocalization and discourage lip movement and place-keeping.
Increase amount of silent reading.
Have other standards than mere oral facility by using informal tests of comprehension or other checks on "thought getting."

Mispronunciation

Minor mispronunciations.
Guesses words from context or initial letter. Stumbles over long or unfamiliar words.
Gross mispronunciation.
Words not in text supplied with mutilation of meaning.

Language handicap.
Speech difficulties.
Previous training has not provided good habits of recognition.
Over-dependence on context cues.
No method of analyzing or breaking up new or long words.
Vocabulary limitations.
Insufficient attention to meaning.
Material may be too difficult.

Supply training which requires accurate recognition and discrimination between words that begin with the same letter. Emphasize accurate recognition and reduce opportunities for using context cues in remedial exercises. Language training. Give training in breaking up words, seeing familiar parts or similar elements in words, etc.

Provide training in syllabication and analytical attack on long words.

Substitutions

Substitutions which mutilate meaning.

Material is too difficult.

Pupil does not or cannot maintain thoughtful attitude while reading.

Meagre vocabulary.

Adjust material to pupil's abilities. Emphasize thought getting. Dramatize and illustrate new meanings and make conscious effort to increase and extend meaning vocabulary.

Words not in text supplied with no significant change of meaning.

Perhaps over-dependence on context or in oral reading. Eyes run so far ahead of voice that equivalent meanings are substituted. (This is not a serious matter in intermediate grades.)

While silent reading habits are forming (Grades II and IV), do not require a great amount of oral reading and do not retard development by over-emphasis on oral accuracy when meaning is not mutilated.

231

Omissions, etc.

Irregular progress or rate
Loss of place.
Skips lines.
False starts.
Nervousness.
Fear.
Worry.

Irregular habits of perception.

Fluctuating attention.

Lack of motor control.

Nervous instability.

Timidity.

Short attention span.

Embarrassment.

Excessive ambition of pupils, parent or teacher.

Permit preparation or study before requiring oral reading.

Allow use of line marker.

Encourage calmness and do not stress speed.

Suggest reduced activity, rest periods.

Reduce strain and over-stimulation.

Do remedial work individually with such children.

Evidences of Deficiency

Diagnosis

Remedial Suggestions

Lack of Interest in Reading.

Never reads during leisure.
Reads only when required to do so.

Over-emphasis on habits and skills with insufficient provision for interest and development of permanent attitude favorable to reading. Meagreness of material to satisfy interests.

Make *interest building* a major objective.
Provide opportunities for choice of materials and incentive for reading in leisure time. Provide attractive and varied materials to satisfy interests. Relate reading to an existing interest.
Broaden interests.

Cares for only one type of reading matter. Cares too intensely about reading.

Limited range of interest. Reads to satisfy desire for excitement.

Excessive reading

Prefers reading to all other leisure pursuits.
Disregard of group interests.
"Bookworm" attitude.

Over-stimulation to read. Poor balance due to personality defects. Dislike of some other activity or factor of experience or environment.

Encourage other interests and activities.
Build new non-reading interests.
Propose interesting outdoor activities.

Withdraws from other responsibilities or opportunities, to engage in reading.

Limit reading opportunities by keeping pupil otherwise engaged.
Take pupil responsible for sharing experience or helping others.

Discouragement

Seeming inability to learn to read.

Consciousness of deficiency.
Wrong placement.
Repeated failure.
Inadequate satisfaction.
Method used did not enlist interest or effort.

Prevent discouragement.
Give help as needed.
Provide evidences of success and other inherent satisfactions.
Change method.

Physical Factors

Lack of effort, fatigue.
Inattention, listlessness.
Evidences of eye-strain.
Defective vision.
Seeming word blindness.

Problems of Capacity

Seeming stupidity.
Usual amount of practice does not seem to suffice.
Directions misapplied.

Insufficient sleep.
Poor physical condition due to over or under feeding or to bad physical habits or defects.
Defective vision.
Defective hearing.
Defect in central nervous system.

Limitations of capacity.
Unusual difficulty in learning.
Gaps in learning experience, due to absence or illness.
Confusion due to conflicting methods.
Repeated failure.
Deficient preparation.
Work not suited to level of maturity.
Language handicaps.

Emotional disturbances

Worry.
Crying.
Tantrums.
Antagonistic attitudes.

Over-systematic methods.
Poorly adapted to pupil's reactions or interests.
Lack of readiness or excessive difficulty of work may have caused confusion and inhibitions of effort.
Too much pressure or coercion.

Investigate home conditions and correct remediable defects.
Physical examination and correction of removable defects.
Examination and prescription by competent oculist or ear specialist.
Stress motor reactions to words.

Adjust expectations to pupil's capacity.
Remove cause of worry or emotional strain.
Provide additional learning experiences.
Provide for individual differences by varying amounts of practice.
Adjust the work to needs. Be guided by pupil reactions rather than by formal methods.

Make sure pupil has had adequate preparation. Harmonize factors which cause emotional conflict.
Do not rouse antagonism or exert undue pressure.

Wrong Conception of Reading
Inability to read simple material at sight.
Fluency only after frequent readings.

Given wrong notion of what reading is.
Rote learning or memorizing of reading matter.
Over-exhaustive work with reader selections.
Over-intensive work.
Narrow aims.

Use procedures which stress thought-getting.
Do not spend too much time on one story or selection.
Use blackboard and phrase cards for practice to avoid memorization or rote learning.

Repeats selection from memory without actually reading.

Not enough variety in training.
Over-dependence on positional clues.
Home tutoring which prepares for "lessons" without increasing ability.

Vary position of words and phrases by using phrase cards and blackboard work.
Use questions that require reorganization of content.

Problems of Comprehension
Inability to reproduce substance of material read with oral fluency.
Oral fluency and facility and inability to answer questions of fact based on the material read.

Over-emphasis on mechanics of word recognition and oral rendition.
Under-emphasis on meaning or thought-getting.
Failure to direct attention to meanings.
Approval for mere rendition.
Formal assignments by page and lessons, or paragraphs without problems, questions or other stimuli.

Correct the emphasis.
Provide for response in terms of meaning.
Use informal tests of comprehension in connection with silent reading.
Direct attention to meanings.
Make purposeful assignments.

Inability to form judgments on material read.
Inability to select important ideas or see relationships.

Meagre meaning vocabulary.
Over-receptive attitude while reading; assignments which do not require assimilation or which do not require selective thinking and re-organization.
Low level of attention.
Routine learning of facts and reading to prepare for formal recitation.
Formal purposeless assignments by page or chapter.
No incentive to real effort.
Lack of a controlling purpose.

Increased emphasis on purposeful silent reading.
Purposeful assignments which require thinking.
Training in thought-getting. Challenge to effort and work at high level of attention. Responsibility for selective thinking.
Provide additional satisfactions or opportunities for spare time.
Use multiple assignments, adjusting them to individual needs, interests, rates, and abilities.

Work Habits

Dawdling before beginning to read.
Frequent lapses of attention while reading. Lack of sincerity, carelessness. Antagonistic attitude.

Material unsuited to interests or abilities. Poor attitudes toward school or work. Over-formal work with insufficient attention to individual needs or attitudes and the development of permanent interests.
Nagged at home or school.
Criticized without receiving constructive help.

Make school activities worth while. Tie up reading with interesting activities and materials based on existing interests; give opportunities for choice of material.
Help pupil to take courage. Show pupil evidences of growth or progress. Commend effort.

General Study Habits

Inability to get textbook assignments.

Books too difficult.
Language handicaps. Assignments too vague. Inadequate specific study habits.
Insufficient background of experiences and meanings.
Fundamental reading habits inadequate.

Provide material not too difficult. Broaden vocabulary of meanings. Give training in study habits.
Provide background of experience and meanings.
Give remedial work in fundamental reading habits.

Specific Study Habits

Inability to outline, organize, select ideas, or perform any of the other activities involved in study in regular school work, or on informal tests.

Inability to follow printed or written directions.

Inability to find answers to questions. Inappropriate responses in terms of cue words or phrases.

Dependence on incidental learning, or general habits.
Inadequate provision for specific training in preparation for the actual needs.

Habitual dependence on others for suggestion or direction. Failure to read, thinking in terms of what is to be done.

Narrow attention span.
Failure to organize the elements of a question mentally and to use the conditions of the question intelligently in the search for replies. Slipshod work, or material too difficult as to vocabulary, sentence structure, or content.

Failure to recognize relevant material or equivalent ideas.

Failure to proceed in the light of a purpose and to hold a given mind-set while reading in search of a given idea or set of meanings.

Training in specific study habits.
Systematic use of specific practice materials similar in design to the informal tests which reveal the need.

Practice under conditions which throw the pupil on his own responsibility.
Correction or explanation of causes for error, and more corrective practice.

Training in holding several related items in mind and selecting suitable answers. Individual responsibility.

Training with individual responsibility. Pupils who fail to respond properly should be required to correct their errors unless the material is manifestly too difficult, in which case similar work with simpler material may be used for training.

Unless caused by lack of mental capacity, training should remove marked deficiency.

Poor attack on study assignment.

Material too difficult.
Assignment too indefinite.
Inability to plan and carry out work systematically.

Adjust material to ability of pupil or adjust assignments accordingly. Make assignments clear and concise. Give opportunities for learning to plan.

Partial answers.
Misconceptions.

Failure to hold question in mind. Partial attention. Over-potency of certain elements and under-potency of others. Failure to attend to relational words and conditioning clauses. Lack of training in grasping total meanings of sentences and longer units.

Make pupil individually responsible for complete answers. Give training which shows effects of modifiers, conditioning clauses, and words which indicate relationships. Require grasp of longer units.

Misconstrues questions or assignment.

Gross misconceptions and misinterpretations of reading matter.

Lack of acquaintance with typical sentence structure. Failure to realize phrase meanings as units and to organize meanings while reading. Absent material. Lack of experiences which make for adequate or correct concepts.

Use questions which cannot be answered by a single word. Give training in anticipation of meaning and organization of content in terms of big problems. Provide experiences and concrete illustrations which correct erroneous concepts. Use pictures, maps, and common experiences to explain abstract terms.

RECOMMENDATIONS

Remedial work is most effective when deficiencies are not of long standing. It is, therefore, important to correct wrong tendencies as soon as they appear and to organize the work of the early grades so that the formation of undesirable habits and attitudes is prevented. This reduces the number of special problem cases in the intermediate and upper grades to a minimum. In any case, remedial work in reading must be specific; it must be adjusted to actual needs. The regular reading diet, or regime, should be preventive, or prophylactic; but corrective work, by utilizing ways and means which are avowedly curative or remedial, removes specific difficulties more economically and saves the pupil from the effects of lingering maladjustment and chronic deficiency.

REFERENCES ON DIAGNOSIS AND REMEDIAL WORK

(NOTE.—The tabular analysis which precedes was made from a study of the following references and of certain unpublished case studies on file at the Lincoln School of Teachers College.)

Anderson, C. J. and Merton E. "Remedial work in reading." *Elementary School Journal*, 9 (May and June, 1920), 685-701, 772-791; 21 (January, 1921), 336-351.

Fernald, G. M. and Keller, H. "The effect of kinaesthetic factors in the development of word recognition in the case of non-readers." *Journal of Educational Research*, 5 (December, 1921), 355-377.

Gates, A. I. *The Psychology of Reading and Spelling with Special Reference to Disability*. Teachers College Contribution, No. 129. New York: Teachers College, 1922.

Gray, C. T. *Deficiencies in Reading Ability*. New York: D. C. Heath and Co., 1928, Pp. vi, 320.

Gray, W. S. "Diagnostic and remedial steps in reading." *Journal of Educational Research*, 4 (June, 1921), 1-15.

Gray, W. S., with the co-operation of Kibbe, Delia; Lucas, Laura, and Miller, L. W. *Remedial Cases in Reading, Their Diagnosis and Treatment*. Supplementary Educational Monograph, No. 22. Chicago: Department of Education, University of Chicago, 1922.. Pp. vii, 208.

Hollingworth, L. S. *Special Talents and Defects: Their Significance for Education*. New York: Macmillan, 1923. Pp. 57-97.

Lloyd, S. M. and Gray, C. T. *Reading in a Texas City: Diagnosis and Remedy*. University of Texas Bulletin, No. 1858 (September, 1918), vii, 107. Austin, Texas: The University of Texas.

Merton, E. *The Discovery and Correction of Reading Difficulties*. 346-363. Second Yearbook of the Department of Elementary School Principals of the N. E. A. Washington: Department of Elementary School Principals, 1923.

- Osburn, W. J. *Graded and Diagnostic Paragraphs for Use in Silent Reading*. Mimeographed Bulletin, State Department of Public Instruction, Madison, Wisconsin, 1922.
- Theisen, W. W. "Factors affecting results in primary reading." *Twentieth Yearbook* of this Society, Part II, pp. 1-25. Bloomington: Public School Publishing Co., 1921.
- Thorndike, E. L. "Reading as reasoning, a study of mistakes in paragraph reading." *Journal of Educational Psychology*, 7 (June, 1917), 323-332.
- Woolley, Helen T. and Ferris, E. *Diagnosis and Treatment of Young School Failures*. Bulletin No. 1, 1923. Washington: Department of Interior, Bureau of Education.
- Zirbes, L. "Diagnostic measurement as a basis for procedure in reading." *Elementary School Journal*, 18 (March, 1918), 505-552.

CHAPTER XI

WAYS AND MEANS OF PUTTING AN IMPROVED READING PROGRAM INTO OPERATION

Problems for consideration. It is the purpose of this section of the report to consider ways and means of putting into operation an improved program of reading instruction based on recent investigations. To school officers and teachers who contemplate such steps, a number of questions present themselves for consideration. For example: What is the present status of reading in our school system? What are the goals to be reached? What steps should be taken to provide an adequate supply of reading materials? What provisions should be made for individual differences? Through what means can an improved program be put into operation most effectively?

SURVEY OF THE PRESENT READING SITUATION

The first step in a comprehensive campaign to improve instruction in reading is to secure accurate information concerning the present status of reading in the system and to determine what changes are desirable. Some of the items of information needed are: the levels of accomplishment in various phases of reading attained by pupils of different grades, the extent to which pupils use books independently and effectively in connection with various school activities, the number and kinds of books provided in each grade, desirable habits at different growth levels, the extent to which such habits have been established, the methods employed by teachers in training pupils to read, and the kinds of help that are needed to raise instruction to a high level of efficiency. The survey should reveal also the effectiveness of methods now in use, the adequacy of the materials of instruction, and the efficiency of teachers and supervisors. If intelligence tests are given, the survey should show the mental levels of pupils in different schools and grades and the extent to which they accomplish what may reasonably be expected of them. Securing accurate information is so essential that the preliminary survey should be undertaken in the most scientific way possible and should make use of every available agency. Suggestions follow concerning the service which may be rendered by teachers and school officers.

The classroom teacher. There are progressive teachers in every school unit eager to take part in any forward movement. Frequently, such teachers have been trained to give, to score, and to diagnose the results of both informal and standardized tests. If they have not had such training, they are usually very glad to learn. A large number of teachers trained to give tests and to collect information may render invaluable service in a study of present accomplishments and needs. They may also supply needed information concerning the books that are available, the methods employed in teaching, the time devoted to reading, and the strong and weak points in the reading accomplishments of pupils as revealed in classroom activities.

The building principal. The building principal, by virtue of his position, may render very valuable assistance. He can organize the teachers under his supervision into a working unit for survey purposes; he can train them to give tests or to tabulate needed information, and he can make arrangements to release teachers to assist in the survey, many times taking over the work of a teacher who may be able to participate in certain phases of the survey more effectively than he.

The director of research. Where there is a department of research, the director should aid in planning to measure reading achievement and intelligence, should distribute the tests and directions sheets that may be required, should direct much of the statistical work that is needed, and should summarize and help interpret the results of the standardized and informal tests that are given.

The superintendent or supervisor of instruction. These officers may or may not be active in such routine work as giving and scoring tests, but it is essential from an administrative and supervisory point of view that they direct the survey. They should provide the necessary vision and leadership. They should direct the organization of the survey, provide the material means for carrying it forward, keep in constant touch with the information that accumulates, and aid in the interpretation of results for the city as a whole.

Other agencies. Colleges of education and normal schools that are conveniently located may detail students to aid in the initial survey. In rural schools the visiting supervisor or supervising teachers may render very valuable help.

The fact should be emphasized that there are numerous agencies

which may participate in the survey of the reading situation in a given school system. Experience has taught that the possibilities of success, both in securing information and in effecting desired reforms, are far greater if all agencies directly responsible for instruction co-operate heartily in each step of the campaign.

The additional fact should be emphasized that the study of the entire situation should be distributed over a considerable period of time. It is unwise to interrupt seriously regular classroom activities. Only a limited number of studies should be undertaken at a given time. As results accumulate, they should be presented to the teachers and their significance considered. Whenever evidence is secured that changes are desirable, appropriate steps should be taken throughout the system to secure improvement. In the meantime, the study of other phases of the reading situation should go forward.

GOALS TO BE REACHED

A well-organized study of the present reading situation should result in a clear picture of existing conditions and desirable changes. The problem which then presents itself is how to change existing conditions to those that are more nearly ideal. For example, old courses of study are frequently inadequate and new objectives must be determined. It has been the purpose of preceding chapters of this report to present materials that are valuable in this connection. Ultimately, however, each school system must determine its own objectives according to the needs, interests, and capacities of the pupils who are to be taught.

But who should formulate the objectives and plan courses of study? For the sake of sound professional progress, it is necessary that all units of the school system participate actively. Classroom teachers should contribute results from practice and experience. Supervisors, principals, and superintendents should contribute helpfully from their wider knowledge of the subject and broader view of school problems. Active co-operation of teachers and school officers in an enterprise of such large significance is essential to success.

Progressive schools have already formulated tentative courses of study through co-operative effort. The St. Cloud course of study in reading is an excellent example of the constructive work of teachers

and supervisors covering a period of over three years. The following outline of their work presents features worthy of consideration.¹

1. The attempt has been made to make practical application for the classroom teacher of the most recent development in the theory of teaching reading.
2. Educative seatwork in silent reading has been developed.
3. A number of unstandardized silent reading tests have been worked out for the use of the classroom teacher.
4. A definite plan of reading procedure has been mapped out for the intermediate grades.
5. A clear-cut distinction has been made between reading for appreciation and reading for study.
6. A beginning has been made in selecting and in training in varied types of study used in different subjects as needed by the child in his development from grade to grade.

The course of study has been published in loose-leaf form for the use of the teachers in the St. Cloud system. This plan was adopted in order that additions and corrections can be made from time to time in harmony with the results of scientific studies of the problems of reading instruction.

A survey of the reading situation in Tulsa, which revealed unsatisfactory results in silent reading, led to a drive for efficiency in that type of reading. After two years of study and classroom experimentation by the teachers, a 56-page bulletin² concerning diagnostic and remedial steps in silent reading was published. This bulletin is rich in suggestive material and shows what co-operative effort can accomplish.

In Rochester a study was made of the aims of reading. For two years classroom teachers worked co-operatively to develop a series of uniform aims for that city. As a result, a report was compiled and a chart embodying the conclusions was prepared by a committee

¹ Ruth Ewing Hilpert. *Reading in the Saint Cloud Public Schools, Grades One to Six*. Board of Education, St. Cloud, Minnesota, 1924.

² *Diagnostic and Remedial Suggestions for Silent Reading in the Elementary Schools of Tulsa, Oklahoma*. Board of Education, Bulletin No. 12, 1921-22.

representing the elementary schools.³ This chart shows graphically and concisely attainments for each grade in each of four objectives, namely:

1. Permanent interests in reading
2. Economical and effective study habits
3. Economical and effective use of books
4. Mastery of the mechanics of reading

These examples indicate what may be accomplished through co-operative effort in reorganizing a course of study in reading and in creating usable materials of instruction. Each school system should organize for such purposes committees composed of capable teachers and supervisors. They should be released from a part or all of their regular duties in order to give adequate time to the problems assigned to them for study. They should not only canvass all of the printed materials relating to their problems, but should also enlist the hearty co-operation of all teachers in the system and secure constructive suggestions from them.

In outlining a course of instruction not only broad comprehensive objectives, but intermediate goals, must be set up, in order that specific aims may be clearly defined and progress checked from time to time. Chapters II and IX of this report contain much material that can be used in formulating such objectives and in checking progress. Three major objectives which apply to all elementary-school grades are: (a) rich and varied experience through reading, (b) strong motives for and permanent interest in reading, and (c) desirable attitudes and effective habits and skills.

Qualitative and quantitative standards of achievement are given for each growth period of the first six grades. While such information is of the greatest value to a committee that is making a course of study, the fact should be emphasized that each school system must adopt aims and standards appropriate for its own use. A course of study must be based on actual needs, such as are revealed by the type of survey which has been described. It must include the

³ Mabel E. Simpson, "The development of standards in reading an important function of supervision," *The Journal of Educational Method* (June, 1923), pp. 420-429.

Joseph P. O'Hern, "The development of a chart for attainments in reading," *Journal of Educational Research* (March, 1921), pp. 180-194.

most effective ways of meeting those needs as determined by clear thinking and scientific study of such problems.

PROVISION OF ADEQUATE READING MATERIALS

A modern reading program is characterized by an abundant supply of appropriate reading materials. Adequate provision of such materials present a difficult problem. In the majority of schools the supply of books is meager and inadequate. School systems must provide more books, must establish libraries, must secure the co-operation of public libraries, and must provide additional pedagogical materials. In order to supply these demands, a larger reading budget is frequently necessary. Wisdom and skill are needed in the expenditure of whatever funds are available. How can desired ends be attained most economically and effectively?

Classroom materials. In Chapter VII of this report the following recommendations are made for each class or working group: One complete set of primers and one set of literary readers in Grade I; one complete set of literary readers and one set of the silent reading or work type in Grades II and III; one reader or book of literary selections and one of the work type for the development of study habits in Grades IV, V, and VI. This at once reduces the number of sets of readers from between four and twenty or more for each grade to two full sets. As a result, funds are released that can be used to provide many sets of from five to ten well-selected books of both the work and recreatory types for use with small groups of children having common needs and interests, and also to provide many single copies for individual reading. Some of this money can also be used for the purchase of the supplementary pedagogical material elsewhere described, which is so essential in developing appropriate habits and skills.

These recommendations are not made primarily as emergency measures, but in the belief that adequate provision for the individual needs of children requires less mass and more individual instruction. The same book in the hand of every child usually means waste and inefficiency in teaching.

School libraries. It is essential that appropriate library material be secured for every classroom. There should be in the kindergarten and primary grades a library table where attractive books are avail-

able for constant use; in the fourth, fifth, and sixth grades, the well-organized work library; and in the junior and senior high school, the special room library. Where appropriations by boards of education are not sufficient, wise publicity is helpful. Mothers' clubs, parent-teacher organizations, and citizens' associations, when convinced of the need, will frequently raise funds to provide such libraries. Where money is so raised, it should be spent by those who are familiar with school needs.

Public libraries. Since a modern reading program requires a wealth of appropriate reading materials, school officers and city librarians are beginning to realize the mutual advantage of co-operation between school and public libraries. Cities in which co-operation exists vary in the specific plans which they follow. Some illustrations are here given:

Washington, D. C.:⁴ The Public Library makes loans of fifty suitable miscellaneous library books three times each semester to each grade, beginning with the third (the second by request). Conferences between the librarian and the supervisors insure a close correlation with the course of study. Suggestions from classroom teachers are also valuable. Records on the individual cards accompanying each book aid in checking the type of reading done by children of various communities, who thus early learn to use the library and to care for books.

Cleveland: The School and Library Association, working together, aim to secure for every child access to a branch library in or near the school. A specially trained expert gives instruction in the use of books at the different distributing centers. In many cities the public library maintains branch libraries in school buildings.

Indianapolis: This city features a vacation reading contest. In the summer of 1922 over ten thousand volumes were chosen, read, and reported on. Children were given credit for this reading.

California: The county library is the result of an effort to carry books to rural districts in a more intimate way than can the travelling state libraries. The Kern County library began its work with schools in 1916. There are 100 schools in this country, varying from large city schools to one-room buildings in the mountains or desert. Each teacher has a minimal fund of \$25.00 so that she may contract with the county library for service. To each school, regardless of size, the library sends supplementary books on all subjects for the use of pupils and desk books for the teachers. In addition, periodicals are provided for the teacher and pupils and sent directly to the school. The children's librarian visits each

⁴ George F. Bowerman, *Annual Report for Public Library of the District of Columbia, 1923-24*. Government Printing Office, 1924.

school, talks with the teachers and pupils, discusses stories and books with them, and supplies reading materials in harmony with their needs and interests.⁵

North Dakota: In a plea made for county libraries in North Dakota by Mary Elizabeth Downey, Librarian and Director, North Dakota Library Commission, Bismarck, N. D., the following reasons for such service were given among others:

Supplements the public school course of study with material for general reading and reference.

Creates a generation of readers of children now in the public school.

Supplies the demand for books which the schools now create.

The press. The daily press should provide children's pages, sections, or columns. These sections should be in the hands of editors having knowledge of the interests and reading needs of children of different ages. Experience teaches that the press can make a real contribution in stimulating interest and developing permanent habits on the part of children in reading newspapers and periodicals.

Extra-school aids. The earlier chapters of this report emphasized the need of a rich background of experience at each age level. It is necessary, therefore, to provide adequate material for varied experiences. A survey by the teachers of the interests and activities of a community is usually necessary. These interests vary; those of rural and small towns differ widely from those of the large city. Classroom activities based on these interests will be used in various subjects, including reading, but will prove of special value in the interpretation of what is read. The second problem is to bring the child in contact with community activities. This means effective use of the so-called school excursion. To obtain first-hand information, children must be taken to markets, to truck gardens, to factories; they must be taken to the various geographical features of the vicinity, to museums, and to art galleries for definite study and help.

There is need for wise publicity if wholesome experiences are to be provided for children. The difficulties to be overcome are: first, objections made by parents, by members of boards of education, and sometimes by school officials, that there is waste of time and some danger to pupils; and second, lack of satisfactory means

⁵ W. S. Learned, *American Public Library and the Diffusion of Knowledge*, Harcourt, Brace Company, 1924.

Arthur E. Bostwick, *American Public Library*, Appleton, 1923.

of transportation. The school board and the community should be informed concerning the value of excursions and their co-operation should be secured in providing for them. A large amount of reading of the work type can be assigned in preparation for these excursions, and both the work and pleasure type of reading should follow to broaden and enrich the experience gained through them.

PROVISION FOR INDIVIDUAL DIFFERENCES

A reading survey frequently reveals misplacements of pupils; for example, children of sixth-grade ability work at third-grade level, and fifth- and sixth-grade children exhibit reading habits not above those required for the third or fourth grade. Such facts show clearly that the reading needs of many children are not being met. In order to provide for individual differences, provision must be made for a better classification of pupils than now exists in a majority of schools. Logically, the best place to begin with such classification is in the kindergarten and first grade, where reading habits are being formed. Chapter II of this report suggests plans for classifying pupils in schools of different types. But proper classification in the initial period will not provide adequately for the needs of children who have passed beyond this period. A flexible plan of class organization and frequent reclassification are essential throughout the grades. Superintendents and supervisors should develop flexible schemes of class organization and instruct teachers concerning the procedures to follow in re-grouping pupils from time to time for the purposes of reading instruction.

Since some pupils learn more easily than others, the amount of instruction required should vary with different pupils. Mass teaching must be supplemented by individual instruction even in schools in which classes have been organized on the basis of needs. The plan of grouping should be flexible enough to allow pupils to work in the group which best provides for their needs. Provision should also be made in the daily program for pupils needing remedial work when teachers specially trained for such purposes are not available.

Some cities classify pupils for the purpose of reading instruction on the basis of intelligence. The following plan is used in Detroit: Pupils who enter the first grade are classified in X, Y, and Z groups, according to the results of intelligence tests. These groups

are sometimes assigned to different rooms; sometimes all three work together in the same room. Definite standards of attainment are established for each ability group. By the end of the sixth grade all groups are expected to have mastered the fundamentals of reading, but to have attained varying levels of accomplishment; the X group will have had wide reading experience; the Z group will at least have mastered the mechanics of reading.

In contrast with the organization of classes into homogeneous groups is the plan of individual instruction in which each child is familiar with the goals to be attained, and works independently toward them. When he reaches one goal, he moves on to the next, thus eliminating waste. This does not necessarily mean a change of rooms. As this plan of instruction is organized in Winnetka, Illinois,⁶ the achievement unit takes the place of the time unit. Children's marks and promotions are based entirely upon individual work. There are no recitations, no grade repetitions, no failures, no skipping. Instead of reciting, the children practice and prepare themselves for achievement tests. The teacher helps individual pupils and develops new work with small temporary groups of children who happen to be ready for the same instruction at a given time.

The plan is made administratively possible by achievement tests corresponding to each goal and by practice materials in connection with which the children can check the accuracy of their own work.

If a modern program of reading instruction is adopted, provision must be made for individual differences. Responsibility for the development of a flexible plan of class organization rests primarily with the administrative and supervisory officers. The importance of an early solution of this problem in each school system cannot be over-emphasized.

MEANS OF PUTTING THE PROGRAM INTO OPERATION

It is essential that there be hearty co-operation of all units of the school system in putting an improved reading program into operation. Examples of types of co-operation follow:

Classroom teachers. In final analysis the improvement of instruc-

⁶ Carleton W. Washburne, "Educational measurement as a key to individual instruction and promotions," *Journal of Educational Research*, 5 (March, 1922), 195-206.

tion depends primarily upon classroom teachers. A school system may have an excellent course of study, a wealth of valuable reading material, and well-classified pupils, yet fail to develop effective readers because of the character of the teaching. What means can be used to encourage progressive teachers to assume leadership in launching a new program of reading instruction? What can be done to awaken lethargic teachers to interest in improving their own teaching methods? What can be done to improve the poorly trained teachers who either know nothing of modern methods or are ineffective in making use of them? A number of suggestions of value in meeting these difficulties follow.

Meetings. Well-planned meetings may be one of the most effective means of securing results, but they are productive only to the degree in which there is intelligent participation by both teachers and supervisors. Each sees the problem from different points of view and is prepared to make helpful contributions. A meeting should be a clearing house where problems are presented for discussion and where results of experiments are summarized and interpreted. How to organize meetings to secure best results is the problem of the supervisor. Clearly the needs of teachers differ. Groups should frequently be organized on the basis of both subject and grade needs. Within these groups committees should be formed with definite problems for solution. The study of these problems should do much towards building up better standards for use in teaching reading. Suggested problems are:

1. How may daily program be organized to provide for small group and individual needs?
2. How may training in silent reading result in the improvement of habits of study?
3. What are the best methods of handling vocabulary difficulties in silent reading?
4. How may training in phonetics be made effective?

Circulation of literature. The study of definite problems by committees should make it necessary for teachers to consult sources of help. The supervisor should be ready with appropriate references, bulletins, monographs, magazine articles on definite phases of reading. All should be available for circulation. There should be classified bibliographies. Material should be in the library of every building or should be easily accessible. Public libraries should co-operate by

purchasing and reserving for teachers whatever literature is needed. Study clubs and reading circles are usually productive in promoting interest in professional reading.

Demonstration. Although practically every educational magazine has discussed the teaching of silent reading in detail, many teachers fail to comprehend its real significance. In many places, reading activities follow largely the traditional types of work. Nothing convinces so thoroughly or is so stimulating as seeing results achieved by a skilful teacher. Demonstrations also provide excellent opportunities to capitalize the ability of individual teachers. If demonstrations are to be effective, teachers must come with well-defined aims and must be active participants in the discussions that follow.

Extension work. Opportunities for the systematic study of reading problems should be provided. In some localities, notably in rural sections, the county institute may be used for this purpose; in other localities a series of lectures, round tables, and conferences extending throughout the school year is arranged. Whatever provision is made for systematic study, it should be made a source of definite help in developing a new reading program. Supervisors should learn of experts in the field who can bring to their teachers the type of help which they need. Does the group need the stimulus of the scientific worker to open new fields of investigation or to give help in investigations already started? Does the group need clear demonstration by a skilful teacher followed by discussions or lectures concerning appropriate teaching techniques?

Greater use should be made of the courses on reading in summer schools and colleges of education. Teachers should be stimulated to take modern courses on reading, in order that they may render greater service in putting an improved program into operation. It is advisable that each school system send at least two or three of its staff each summer to make studies of particular problems and to prepare for genuine service and leadership during the following year.

Supervisors. The first obligation of supervisors is to create interest in modern reforms in reading instruction and to stimulate a desire to bring practice up to the highest level of efficiency. A supervisor should not be content with intangible results. She must know not only the ultimate goals of reading instruction but the intermediate

goals as well. As the new program is put into operation, she should help teachers establish standards of attainment and to measure results step by step. In this connection there is need of the closest co-operation. The supervisor brings to the teacher encouragement for the successes attained and helpful suggestions for further progress. The teacher brings knowledge of actual conditions and concrete suggestions for meeting them. Through individual and group conferences, classroom visits, and meetings and demonstrations, supervisors should provide teachers with constant help and encouragement.

It is the supervisor's duty to make use of special knowledge or ability of individual teachers. If a primary teacher has gained an understanding of the fundamental principle underlying individual differences and is able to deal with them effectively, her methods and procedures are of value not only to her own class but also to the whole teaching staff. Her classroom should be made an observation center for teachers who need help in this connection. If in the intermediate grades there are teachers who are especially capable in developing in children an appreciation of good literature, or independence in going to source books for desired information, their methods should be observed by, or described to, other teachers. It is a supervisor's business to locate skilful teachers and use them to advantage in improving instruction. Such teachers should be encouraged, provided with needed materials, stimulated to wider reading and professional growth, and given recognition for the real contribution their teaching makes to the system.

Superintendent. The superintendent should assume leadership in putting a new reading program into operation, should provide the necessary material means, should organize the supervisory and teaching staff to render the most effective help, should make careful studies of the latest developments in reading, and present and interpret significant findings to his teachers from time to time or secure experts who are qualified to do this for him. He must keep in constant touch with developments in his school system and must see that all units work together co-operatively in improving instruction. His responsibility is great because it involves an unlimited amount of vision, leadership, and tact.

Boards of education and school patrons. If interest is aroused in

what the schools are doing and what they aim to do, boards of education and school patrons can definitely aid in improving reading instruction. Through lectures, demonstrations, graphs, and slogans they can be informed of the present situation and needed reforms. Patrons should lend their sympathy and support to such educational policies and should encourage boards of education to supply as liberal a budget as necessary to insure success.

CONCLUDING STATEMENT

The suggestions contained in this chapter have been made with a full recognition of the fact that the means employed in putting an improved program into successful operation must differ with conditions in different cities. Consequently, only examples of appropriate procedures have been included. It is imperative, however, that each school system devote time and energy to the study of the problems which have been discussed. The public pays liberally to support education. It is our responsibility to insure to the present generation of pupils the most effective instruction in reading that schools can provide.

CHAPTER XII

SUMMARY OF OUTSTANDING RECOMMENDATIONS AND SUGGESTED PROBLEMS IN URGENT NEED OF INVESTIGATION

I. SUMMARY OF OUTSTANDING RECOMMENDATIONS

Of the numerous recommendations in the report, some are of major importance and should be carefully considered in any effort to reorganize or improve reading instruction; others relate to matters of detail and are of lesser significance. In order to direct attention, in closing, to issues of fundamental importance, the following summary of outstanding recommendations to which the committee unanimously subscribes has been prepared. These, at least, are essential to a satisfactory program for the teaching of reading:

1. A broad conception of the aims of reading instruction, based on a clear understanding of its wide significance in school and other life activities.

2. Vigorous emphasis from the beginning on reading as a thought-getting process and the subordination of the mechanics of reading to thoughtful interpretation.

3. A clear recognition of the vital contribution of wide experience to good interpretation, with special emphasis on pre-reading experiences and the temporary postponement, if necessary, of formal instruction in reading.

4. Provision for wide reading as an essential means of extending experience and of cultivating strong motives for, and permanent interests in, reading.

5. A significant increase in the amount and variety of reading materials and a corresponding improvement in their quality.

6. A clear recognition of the fact that both recreatory and work-type reading are essential in a well-balanced program of instruction.

7. Definite provision for the systematic development and independent use of specific reading and study habits in all school subjects.

8. Emphasis on the enjoyment of literature as a means of fuller living, rather than on analysis and detailed study technique in this field.

9. New types of organization and procedure in classes made necessary by the adoption of broader aims of reading.

10. Adequate provision for differences in individual capacities, needs, and tastes.

11. The classroom use of informal tests as essential means of discovering group and individual needs.

12. The continuous study of progress toward the essential objectives of reading, namely: wide experience, strong motives for, and permanent interests in, reading, and effective habits and skills.

II. PROBLEMS IN URGENT NEED OF INVESTIGATION

The fact has been emphasized earlier that the committee frequently found it necessary in preparing recommendations to make use of the results of incomplete or inadequate studies, or to depend solely on critical judgments. Consequently, some of the recommendations included have been necessarily tentative in character. Before final conclusions can be drawn concerning many issues on which the committee has merely expressed its opinion, it will be necessary to secure additional scientific evidence. As a means of directing attention to some of these problems, the committee has prepared the list which follows. It is evident that the list is incomplete. It has been prepared solely to suggest types of problems that are in urgent need of investigation.

1. *Classroom Organization*

(a) How should classes be organized to provide for the maximal development in reading of each child in harmony with his interests, tastes, and capacities without undue interference or waste?

(b) To what extent should the reading in specific subjects, such as history, science, and English, be organized upon an individual problem basis?

2. *Analysis of Specific Habits*

(a) What are limits and characteristics of important growth periods in all phases of reading through which pupils pass in their progress toward maturity?

(b) What are important types of difficulty encountered in the use of textbooks and study materials in content subjects?

(c) What are the specific techniques involved in work-type reading in each subject of the curriculum?

3. *Study Attitudes*

(a) To what extent should pupils be made aware of specific techniques in reading as contrasted with provision of strong motives and freedom from specific directions?

(b) How may appropriate attitudes toward work-type reading and study be cultivated?

4. *Diagnosis and Remedial Work*

(a) What are the specific practice materials needed in prophylactic and remedial work and how may their validity be determined experimentally?

(b) What are the most effective means of diagnosing reading and study deficiencies in the upper grades and the high school?

(c) What are appropriate remedial measures for each type of difficulty?

5. *Interests and Appreciations*

(a) What classroom technique may be used for comparing and recording growth in interests and appropriate attitudes toward reading and in appreciation of specific books and selections?

(b) What effects on reading interests, attitudes, and appreciations are secured by (1) unsupervised reading and (2) carefully directed supplementary reading?

(c) What books are genuinely liked by children in each school grade and are also good literature?

(d) What types of reading material should be used in cultivating permanent interests in reading on the part of all pupils?

(e) What are the classroom procedures best suited to cultivate permanent interest and habits of independent reading?

(f) What choices in reading occur in each period of development with respect to various types of literature, such as informational selections, stories, poetry?

6. *Relative Effectiveness of Different Teaching Procedures*

(a) What is the effect on reading attitudes and comprehension of presenting factual material in story form?

(b) What conditions are most favorable in work-type reading: one or two complete sets of textbooks; or some combination of these?

- (c) How may meanings be enriched, vocabularies extended, concepts clarified, and significant relationships grasped?

7. *Vocabulary*

- (a) What are the speaking and meaning vocabularies of children in the various periods of development in reading?
- (b) What is the relative importance of various words in reading vocabularies of young children?

8. *Phonetics*

- (a) What is the frequency of various phonetic elements in the reading vocabularies of children at various levels of development?
- (b) What are the form and sound elements most easily learned by pre-school children?
- (c) What tests may be used in discovering the needs of children with respect to the phonetic analysis of words?

9. *Literature*

- (a) What attitudes toward reading develop and how are tastes refined when directing attention to appreciation of literature for its own sake, and when reading for the enjoyment of experience?
- (b) What objective tests can be developed for the measurement of appreciation of, and wholesome attitudes toward, the reading of literature?
- (c) To what extent are true-false or multiple choice tests of value in testing comprehension in the study of literary selections?

10. *Standards of Attainment*

- (a) What are appropriate tests for use in classifying children at each level of advancement?
- (b) What are desirable standards for each grade or age in achieving the broader objectives of reading instruction?
- (c) What are desirable variations in standards for children at different levels of capacity?

11. *Pre-Reading Experience*

- (a) What are the experiences required by different types of young children in preparing for reading?

12. *Mechanical Make-Up of Books*

(a) What is the effect of length of sentences upon comprehension?

(b) What is the effect of breaking a phrase at the end of a line and of irregularities in the left-hand margin on speed and comprehension in reading?

(c) What are the effects of various types of illustrations upon interests and comprehension in reading?

13. *Economy of Time*

(a) How can the time allotment in reading in the primary grades be reduced without lessening the effectiveness of instruction?

(b) How can incidental reading experiences be utilized more effectively in securing rapid progress in primary reading?

14. *Number of Books*

(a) What are desirable standards as to number of books available per child in each grade in each subject?

(b) How may an adequate supply of books be provided in each school system?

CONSTITUTION OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

(As Revised at the 1924 Meeting of the Society)

Article I

Name.—The name of this Society shall be "The National Society for the Study of Education."

Article II

Object.—Its purposes are to carry on the investigation of educational problems, to publish the results, and to promote their discussion.

Article III

Membership.—Section 1. There shall be three classes of members—active, associate, and honorary.

Section 2. Any person who is desirous of promoting the purposes of this Society is eligible to membership and shall become such on payment of dues as prescribed.

Section 3. Active members shall be entitled to vote, to participate in discussion, and under certain conditions, to hold office.

Section 4. Associate members shall receive the publications of the Society, and may attend its meetings, but shall not be entitled to hold office, or to vote, or to take part in the discussion.

Section 5. Honorary members shall be entitled to all the privileges of active members, with the exception of voting and holding office, and shall be exempt from the payment of dues.

A person may be elected to honorary membership by vote of the Society on nomination by the Board of Directors.

Section 6. The names of the active and honorary members shall be printed in the *Yearbook*.

Section 7. The annual dues for active members shall be \$2.00 and for associate members \$1.00. The election fee for active and for associate members shall be \$1.00.

Article IV

Officers.—Section 1. The officers of the Society shall be a Board of Directors, a Council, and a Secretary-Treasurer.

Section 2. The Board of Directors shall consist of six members of the Society and the Secretary-Treasurer. Only active members who have contributed to the *Yearbooks* shall be eligible to serve as directors.

Section 3. The Board of Directors shall be elected by the Society to serve for three years, beginning on January first after their election. Two members of the Board shall be elected annually (and such additional members as may be necessary to fill vacancies that may have arisen).

This election shall be conducted by an annual mail ballot of all active members of the Society. A primary ballot shall be secured in October, in which the active members shall nominate from a list of members eligible to said Board. The names of the six persons receiving the highest number of votes on this primary ballot shall be submitted in November for a second ballot for the election of the two members of the Board. The two persons (or more in the case of special vacancies) then receiving the highest number of votes shall be declared elected.

Section 4. The Board of Directors shall have general charge of the work of the Society, shall appoint its own Chairman, shall appoint the Secretary-Treasurer, and the members of the Council. It shall have power to fill vacancies within its membership, until a successor shall be elected as prescribed in Section 3.

Section 5. The Council shall consist of the Board of Directors, the chairmen of the Society's Yearbook and Research Committees, and such other active members of the Society as the Board of Directors may appoint from time to time.

Section 6. The function of the Council shall be to further the objects of the Society by assisting the Board of Directors in planning and carrying forward the educational undertakings of the Society.

Article V

Publications.—The Society shall publish *The Yearbook of the National Society for the Study of Education* and such supplements as the Board of Directors may provide for.

Article VI

Meetings.—The Society shall hold its annual meetings at the time and place of the Department of Superintendence of the National

Education Association. Other meetings may be held when authorized by the Society or by the Board of Directors.

Article VII

Amendments.—This constitution may be amended at any annual meeting by a vote of two-thirds of voting members present.

MINUTES OF THE CHICAGO MEETING OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

(February 23, 26, and 27, 1924)

The first meeting of the Society was a joint meeting with the National Vocational Guidance Association and the Department of Vocational Education and Practical Arts of the National Education Association. Owing to errors made by those in charge of arrangements at Chicago, this session could not be held in the Gold Room of the Congress Hotel as advertised and it was necessary to pack to the suffocation point the Florentine Room with its nominal capacity of 600. President Judd called the meeting to order at 8:05 Saturday evening, February 23rd, and after a few words of explanation concerning the matter of the *Yearbooks* and the evening's program, introduced as presiding officer for the evening Mr. John N. Greer, Assistant Superintendent of Schools, Minneapolis, Minnesota, and President of the Department of Vocational Education and Practical Arts of the National Education Association.

The following program was then presented, based upon Part II, Section 1 (Vocational Guidance) of the 23rd *Yearbook* of the Society, entitled "Vocational Guidance and Vocational Education for the Industries":

- I. "RECENT INDICATIONS OF PROGRESS IN VOCATIONAL GUIDANCE."
Harry D. Kitson, Professor of Psychology, Indiana University,
and President of the National Vocational Guidance Association.
- II. "WHAT IS THE GUIDANCE EMPHASIS IN OUR PUBLIC SCHOOLS?"
A. H. Edgerton, Supervisor of Vocational Information and Guidance, Teachers College and the Lincoln School, Columbia University, New York City, New York.
- III. "OUTSTANDING DEMANDS FOR GUIDANCE ACTIVITIES IN A CITY SYSTEM."
H. H. Bixler, Director of Vocational Guidance, Atlanta, Georgia.
- IV. "HOW THE PROBLEMS OF GUIDANCE ARE MET IN A SMALL CITY."
John Friese, Technical High School, St. Cloud, Minnesota.
- V. "TRAINING PROGRAMS FOR THOSE WHO ARE RESPONSIBLE FOR VOCATIONAL GUIDANCE."
John M. Brewer, Director of Bureau of Vocational Guidance,
Harvard University, Cambridge, Massachusetts.

- VI. "CRITICAL REVIEW OF PRESENT DEVELOPMENTS IN VOCATIONAL GUIDANCE WITH SPECIAL REFERENCE TO FUTURE PROSPECTS."
George E. Myers, Professor of Vocational Education, School of Education, University of Michigan, Ann Arbor, Michigan.

DISCUSSION:

Helen T. Woolley, Psychologist, Merrill-Palmer School, Detroit, Michigan.
Emery Filbey, Dean of the Extension College, University of Chicago, Chicago, Illinois.

The discussion from the floor was participated in by Mr. H. D. Hatch of Chicago, Asst. Supt. Hamilton of Sioux City, Mr. Humboldt of Rockford, Illinois; Mrs. Woolley of Detroit, and others.

The second meeting of the Society was held in the Gold Room of the Congress Hotel, Tuesday, February 26th at 8:00 p. m. The audience of some 1200 persons completely filled the auditorium and listened with interest to the discussion of Part I of the 23rd Yearbook of the Society, on "The Education of Gifted Children." President Judd presided while the following program was given:

- I. "THE WORK OF THE COMMITTEE ON THE EDUCATION OF GIFTED CHILDREN."
Guy M. Whipple, Professor of Experimental Education, University of Michigan; Secretary of the Society, and Chairman of the Committee.
- II. "METHODS OF SELECTING SUPERIOR CHILDREN IN SCHOOL."
Bird T. Baldwin, Director of the Iowa Child Welfare Research Station, Iowa City, Iowa.
- III. "CHARACTERISTIC AND SIGNIFICANT DIFFERENCES BETWEEN THE "X" AND "Z" PUPILS IN THE DETROIT SCHOOLS."
Anna M. Engel, Assistant Supervisor of Special Education, Detroit, Michigan.
- IV. "THE SCHOOL PROGRESS OF SUPERIOR PUPILS UNDER A SYSTEM OF INDIVIDUAL INSTRUCTION."
Carleton W. Washburne, Superintendent of Schools, Winnetka, Illinois.
- V. "SCIENTIFIC EVIDENCE BEARING ON SPECIAL TREATMENT OF GIFTED CHILDREN."
Frank N. Freeman, Professor of Educational Psychology, University of Chicago, Chicago, Illinois.

DISCUSSION:

Harvey G. Townsend, Professor of Education, Smith College, Northampton, Massachusetts.

H. H. Goddard, Professor of Abnormal and Clinical Psychology, Ohio State University, Columbus, Ohio.

In the discussion that ensued, remarks were made by Messrs. Rugg, West, Gary Myers, and Miss Laura Zirbes. There was also discussion between Messrs. Baldwin and Freeman concerning certain points which had been introduced by Dr. Freeman in his paper. The discussion was concluded by Dr. Whipple.

Immediately after this program was held the Business Meeting of the Society:

The following changes in the Constitution of the Society (sections not cited to remain as at present) were adopted with no dissenting vote:

ARTICLE II

Object:—Its purposes are to carry on the investigation of educational problems, to publish the results, and to promote their discussion.

ARTICLE III

Section 2. Any person who is desirous of promoting the purposes of this Society is eligible to membership and shall become such on payment of dues as prescribed.

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This election shall be conducted by an annual mail ballot of all active members of the Society. A primary ballot shall be secured in October in which the active members shall nominate from a list of members eligible to said Board. The names of the six persons receiving the highest number of votes on this primary ballot shall be submitted in November for a second ballot for the election of the two members of the Board. The two

persons (or more in the case of special vacancies) then receiving the highest number of votes shall be declared elected.

Section 4. The Board of Directors shall have general charge of the work of the Society, shall appoint its own Chairman, shall appoint the Secretary-Treasurer, and the members of the Council. It shall have power to fill vacancies within its membership, until a successor shall be elected as prescribed in Section 3.

Section 5. The Council shall consist of the Board of Directors, the chairmen of the Society's Yearbook and Research Committees, and such other active members of the Society as the Board of Directors may appoint from time to time.

Section 6. The function of the Council shall be to further the objects of the Society by assisting the Board of Directors in planning and carrying forward the educational undertakings of the Society.

ARTICLE V

For "Executive Committee," read "Board of Directors."

ARTICLE VI

For "Executive Committee," read "Board of Directors."

After the adoption of these changes in the Constitution, the following subsidiary recommendation was unanimously adopted:

Subsidiary Recommendation

In order to provide continuity of policy and personnel, it is recommended that the present members of the Board of Trustees and of the Executive Committee and the retiring president constitute the Board of Directors for 1924, that is, until the new plan shall go into operation, and that the present Secretary-Treasurer continue in office until the expiration of his present term of appointment.

It is further recommended that on December 31st, 1924, two members of the then Board of Directors (as determined by the Board) shall retire, and similarly, annually, until the full Board of Directors has been elected as provided by the amended constitution.

Attention was called by President Judd to plans for future *Yearbooks*. The statement of these plans already circulated by mail among the active members of the Society is as follows:

PLANS FOR YEARBOOKS

The officers of the Society have prepared (1) a list of accepted *Yearbook* topics, and (2) a list of other *Yearbook* topics under consideration. It is further planned that these lists may be extended by the addition of topics proposed by active members of the Society and also by the inclusion of *Yearbook* material that may have been initiated by other edu-

cational organizations which may seek alliance with this Society for the purpose of publication. This material must, of course, have the sanction of the Board of Directors, and suitable arrangements must be made for the co-operation of the Society's representatives. It is hoped that funds for subsidizing certain of the Society's undertakings may be secured in the form of subventions from various organizations that are devoted to the facilitation of research in education.

1. *Accepted Yearbook Topics*

- I. Methods of Teaching
- II. Individualized Instruction
- III. The Limitations of Training
- IV. The Technique of Curriculum Making
- V. The Education of Gifted Children (continuation of present committee)

2. *Yearbook Topics under Consideration*

- VI. Remedial Training of Speech Defectives in the Public Schools
- VII. Methods of Learning in High-School Subjects
- VIII. Elimination and Retardation (Promotion and Non-Promotion)
- IX. The Psychology and Pedagogy of Special Abilities and Disabilities
- X. Personnel Problems in College Administration
- XI. The Development of Musical Appreciation in the Public School
- XII. The Non-Intellectual (Dynamic) Traits of Personality
- XIII. Studies of the Several School Subjects

Members of the Society who desire to co-operate actively in any of these undertakings are invited to notify the Secretary to that effect. Members who wish to see other topics undertaken are invited to forward to the Secretary detailed statements of such problems, including an outline of the methods by which it is proposed to attack their solution.

On motion of the Secretary, honorary membership was unanimously voted James H. Van Sickle, now of Dade City, Florida, who relinquished the superintendency of schools at Springfield, Massachusetts, August 31, 1923, and who has for many years been actively interested in the welfare of this Society and its undertakings.

On motion of the Secretary, the Society adopted by a unanimous rising vote, the following resolutions:

WHEREAS, death has removed from the National Society for the Study of Education, Stephen S. Colvin, a man who has for many years served the Society as a member of its Executive Committee, as a contributor to its Yearbooks

of thoughtful and stimulating articles, and as an earnest advocate of its professional aims;

BE IT RESOLVED: That this Society, at its annual meeting held at Chicago, February 26, 1924, hereby bears witness to its deep appreciation of Professor Colvin's services to the Society, to its admiration for his rare personal qualifications as a teacher, an investigator, and a leader in educational thought, and to its sense of abiding loss which his death has brought to us, his fellow-workers.

BE IT ALSO RESOLVED: That these resolutions be entered upon the minutes of this meeting, and that a copy of them be sent to Professor Colvin's family.

On motion, the business meeting then adjourned.

The third meeting of the Society, held in the Cameo Room of the Morrison Hotel, Wednesday, February 27th, at 2:15 p. m., was a joint meeting of the Society and the Department of Vocational Education and Practical Arts of the National Education Association. This meeting was devoted to a discussion of Section 2, Part II (Vocational Education for the Industries) of the *Twenty-third Yearbook* of the Society, prepared under the Chairmanship of A. H. Edgerton, and entitled "Vocational Guidance and Vocational Education for the Industries."

President Judd called the meeting to order and, after brief introductory remarks, turned the meeting over to the Chairmanship of Superintendent Greer.

Save for the absence of Mr. Prosser, the following program was given as scheduled:

- I. "PRESENT TRENDS AND FRIENDLY ENEMIES OF INDUSTRIAL EDUCATION."
A. H. Edgerton, Supervisor of Vocational Information and Guidance, Teachers College and the Lincoln School, Columbia University, New York City, New York.
- II. "PROVISIONS FOR INDUSTRIAL EDUCATION IN THE PUBLIC SCHOOLS."
Howard Briggs, Director of Vocational Education, Cleveland, Ohio.
- III. "WHAT IS THE PLACE OF ANALYSIS IN VOCATIONAL CURRICULUM BUILDING?"
Harry D. Kitson, Professor of Psychology, Indiana University, and President of the National Vocational Guidance Association.

- IV. "HOW DOES THE INSTRUCTION IN VOCATIONAL SCHOOLS PROVIDE FOR INDIVIDUAL DIFFERENCES?"
Robert H. Rodgers, Bureau of Vocational Teacher Training, Milwaukee, Wisconsin.
- V. "WHAT METHODS ARE USED FOR TRAINING WORKERS IN INDUSTRY?"
Charles Prosser, Director of William Hood Dunwoody Institute, Minneapolis, Minnesota.
- VI. "WHAT IS THE FUTURE OUTLOOK FOR INDUSTRIAL EDUCATION IN THE UNITED STATES?"
K. G. Smith, State Department of Public Instruction, Lansing, Michigan.

DISCUSSION:

J. G. Collicott, Superintendent of Schools, Columbus, Ohio.
Erwin E. Lewis, Superintendent of Schools, Flint, Michigan.

Dr. Snedden joined Superintendent Collicott and Superintendent Lewis in the discussion.

GUY M. WHIPPLE, *Secretary.*

SYNOPSIS OF THE PROCEEDINGS OF THE BOARD OF DIRECTORS

At the behest of the Board of Directors, the Secretary has prepared the following synopsis, in order that the members of the Society may be informed concerning the acts and policies of those who are directing the Society. The synopsis does not comprise all the business transacted by the Board, since numerous matters of minor importance have been omitted entirely.

FIRST MEETING OF THE BOARD

(Cleveland, Ohio, April 13, 1924.)

Those present were: Messrs. Judd, Koos, Lord, Rugg, Whipple.

Those absent were: Messrs. Courtis, Holmes.

(1) In connection with requests from several persons for permission to quote excerpts from the Society's *Yearbooks*, it was voted that in general there should be a liberal policy in granting permission to quote from the *Yearbooks*, but that all persons who quoted material should be asked to give specific reference to author, volume, date, chapter, and page, and, when the excerpts were at all lengthy, to add some statement calling the attention of the reader to the desirability of referring to the original material.

(2) The Secretary and Dr. Judd were appointed representatives on the Council of the A. A. A. S.

(3) A communication from Dr. Chadsey requested that the Society consider the adoption of a resolution favoring the policy on the part of school boards and superintendents of releasing teachers in service from some portion of their ordinary duties when they were engaged in professional undertakings. It was voted that the Directors recommend such a resolution for favorable action at the 1925 meeting, and Dr. Rugg was requested to draw up a resolution for presentation at that time.

(4) A communication from the United States Commissioner of Education having requested the Society to send a representative, if possible, to the Pedagogical Congress to be held at Santiago, Chile, in the summer of 1925, it was voted that the Directors bring the attention of the Society, at its next meeting, to this Congress and

that we offer our credentials to any member that might be able to attend.

(5) The Directors authorized expenditures for 1924-25 (12 months) as follows:

Secretary's Office	\$2,250.00
Printing New Yearbooks.....	4,500.00
Reprinting Various Yearbooks.....	1,700.00
Expenses of Directors' Meetings.....	600.00
Expenses of Yearbook Committees:	
Yearbook on Curriculum.....	800.00
Yearbook on Method.....	500.00
Yearbook on Training.....	700.00
Yearbook on Individual Instruction.....	150.00

(6) W. S. Gray reported satisfactory progress on the part of his Committee on Reading and promised the completed manuscript for publication in 1925.

(7) H. O. Rugg outlined at some length his plans for a *Yearbook* on "The Technique of Curriculum Making" and there was general discussion concerning its contents.

(8) C. W. Washburne was asked to draw up a more extended outline of the *Yearbook* which he had already sketched informally on the subject of "Individual Instruction." He was asked also to present a list of the members of the committee and urged to plan this book for printing in 1926.

(9) The Board went on record as urging Mr. Courtis to push the work on the *Yearbook* dealing with "Methods" as rapidly as possible and appropriated \$500.00 towards the expenses of the committee.

(10) L. M. Terman was asked to report as soon as possible concerning a list of members for a committee, to be headed by himself, to prepare a *Yearbook* on "The Limitations of Training" and a ~~sum~~ not to exceed \$700.00 was allowed for holding an early meeting of this committee.

(11) The committee which had prepared the *Yearbook* on "Gifted Children" under the chairmanship of G. M. Whipple, requested that the committee be continued indefinitely with the hope that after several years it might be possible to present another *Yearbook* supplementing the one prepared by this committee in 1924.

(12) Charles S. Berry having reported that he found it for the present inadvisable to prepare a *Yearbook* on "Special Abilities and Disabilities," the Board voted that no action be taken for the present in connection with this *Yearbook*.

(13) "A Report on Colleges of Liberal Arts," prepared by F. J. Kelly, which had been previously submitted for consideration as a *Yearbook* had since then been given publication in other journals, so this topic was stricken from the list of proposed *Yearbooks*.

(14) The *Yearbook* on "Musical Appreciation" had been suggested by G. M. Whipple, who reported that he was not ready at present to make definite proposals, but wished the topic continued on the list of possible *Yearbooks* for future consideration.

(15) Communications having been received from Ernest Burnham, Norman Frost, and Harold Van Buren concerning the desirability of a *Yearbook* dealing with "Rural Education," Mr. Burnham was requested to submit a more detailed account of such a *Yearbook* for presentation at the fall meeting of the Board.

(16) Communications were read from John L. Horn, of Mills College, suggesting a *Yearbook* on "Speech Defectives." The Board felt that this topic would probably interest a comparatively small number of our readers and would, furthermore, be better undertaken by some other agency than this Society.

(17) Communications from Earle Rugg concerning the desirability of a *Yearbook* dealing with "Extra-Class Activities" were read and discussed. The Directors requested L. V. Koos to communicate with Mr. Rugg and others and to bring to the fall meeting a possible program for this *Yearbook*.

(18) The Secretary reported his correspondence with respect to *Yearbooks* and co-operation in their preparation had with the following persons: F. R. Pauly, L. C. Sears, P. F. Finner, W. T. Sanger, Leo Horst, A. R. Mead, Frances F. Bernard, Mary L. Patrick, E. F. Buchner, Lida B. Earhart, Agnes L. Rogers, Lucia B. Mirrielees, and Edward Rynearson.

The Board expressed its appreciation of the excellent spirit of co-operation shown by these members.

(19) On the basis of the decision made with respect to the foregoing *Yearbooks*, the Directors proposed that certain general prin-

principles should be regarded as controlling the organization and operation of the *Yearbook* committees in general. These general principles included the following:

(a) All *Yearbooks* must be passed upon and specifically authorized by the Board of Directors before they become official undertakings of the Society.

(b) The chairman of each *Yearbook* committee, having been appointed by the Board of Directors, is expected, as soon thereafter as feasible, to propose to the Board the names of the persons whom he desires to have form the personnel of his committee, and these appointments must have the sanction of the Board to become official.

(c) The chairman may make use of the services of other persons than the authorized committee members, both in consultation and in contributing to the *Yearbook*, but these additional persons are to be regarded as "associates" of the official committee, not as "members" of it.

(d) Funds appropriated for the holding of committee meetings may be used to cover the travelling expenses of committee members, but not of associates.

(e) The Society will not be liable for expenses incurred by committee chairmen in excess of the amounts specified for each committee by the Board of Directors.

(f) Committee chairmen are expected to use reasonable care to arrange their committee meetings with respect to number, time, and place in such a way as to conserve the financial resources of the Society.

(g) Each committee chairman is to present to the Board of Directors at its annual fall meeting a report of progress upon the work going on under his direction.

(h) Every effort should be made to present at the fall meeting of the Board of Directors (to be held on or about October 1st whenever possible) as complete a formulation as possible of any *Yearbook* which it is proposed to publish for the meeting of the Society to be held the February following.

(20) C. H. Judd was unanimously elected Chairman of the Board of Directors, to serve until December 31, 1924.

(21) C. H. Judd and H. W. Holmes were selected as the two

members to retire December 31, 1924—retiring members being, under the Constitution, eligible for re-election.

(22) The Secretary was requested to present at the fall meeting arguments for and against the continuance of the present forms of membership.

SECOND MEETING OF THE BOARD

(Chicago, Illinois, November 8, 1924.)

Present: Messrs, Courtis, Holmes, Judd, Koos, Lord, Rugg, Whipple.

(1) The "Announcement," as proposed for printing by the Secretary, was approved.

(2) A request for rates for advertising space in the *Yearbook* was received. The Directors approved the reply which had been made by the Secretary to the effect that advertising, except for the list of the Society's own publications, was contrary to precedent and to the spirit of the Society's *Yearbooks*.

(3) Correspondence was submitted between the Chairman and Secretary of the Board and officials of Section Q of the A. A. A. S. The Board endorsed the position taken by its representatives to the effect that it seemed undesirable to arrange for a formal meeting of this Society in December in affiliation with Section Q.

(4) It was voted that the list of active members to be printed in the *Yearbook* should hereafter be made up of active members of the Society as of December 31st of the preceding year, rather than limit it to those who had at that time paid their dues in advance for the following year.

(5) The Secretary and H. W. Holmes were made a committee with power to arrange a contract with the Atlantic Printing Company for the printing of the 1925 *Yearbooks*.

(6) It was voted to enter on the minutes as a matter of record, the Secretary's statement concerning progress being made in developing his office to a point where it might operate independently of any connection with institutions to which he might be attached. The Secretary's report also showed that the time expended by him upon the Society's business averaged more than ten hours a week.

(7) It was voted that the budget for each calendar year be voted

at the fall meeting preceding that year; also that as a matter of policy, funds appropriated for a budget are to be regarded as charges against the Society—that is, as not available for any other activity than the one for which they have been appropriated.

(8) It was estimated that \$3,850.00 was already committed as possible expenditures prior to January 1, 1925, of which amount \$2,200.00 was still tied up in the form of appropriations made to *Yearbook* committees. In addition, the following budget was voted for 1925:

For the Secretary's Office.....	\$2,500.00
For Meetings of the Board of Directors.....	1,320.00
For Printing and Distributing <i>Yearbooks</i>	8,500.00
For further expenses of <i>Yearbook Committees</i>	850.00

(9) It was voted not to include in the final ballot, to be mailed to the active members for the election of two members of the Board, any statements concerning the professional activities of the persons named in the ballot. It was also voted that the signatures of active members be not required in returning these ballots.

(10) Correspondence was reported by the Secretary dealing with the protests which had been made concerning the policy of the Society in the election of its Board of Directors. The Board voted unanimously that no further action need be taken concerning the matter raised in this correspondence.

(11) On the basis of a summary of the arguments for and against continuing the present forms of membership, it was unanimously voted that no change be made in these forms, but that so far as possible the desirability of active membership be increased by offering to active members various types of service and opportunities in addition to the privileges they already enjoy.

(12) C. W. Washburne submitted a typewritten outline of a *Yearbook* on "Adapting the Schools to Individual Differences." The Board authorized the publication of this *Yearbook* in 1925 and appropriated not to exceed \$200.00 (in place of the \$150.00 previously appropriated) for the expenses of preparing this *Yearbook* for publication. It was further voted that in arranging the program for this *Yearbook* an effort be made to secure 30 minutes of free discussion from the floor, and that a summary of the salient con-

tentions of the *Yearbook* be mailed in November to active members of the Society for the purpose of stimulating this discussion.

(18) W. S. Gray submitted an outline of the *Yearbook* on "Reading." It was voted that this be printed in 1925 and that a similar effort be made, as in the case of the foregoing *Yearbook*, to secure active discussion of its contents from the floor at the annual meeting.

(14) H. O. Rugg reported progress made by the committee of which he is chairman, in preparation of a *Yearbook* on the "Technique of Curriculum Making," and similar reports were made for their respective committees by Messrs. Courtis, Terman, and Koos. (Statements concerning these *Yearbooks* appear elsewhere in this volume.)

The Board appropriated a sum not to exceed \$800.00 for the use of the Committee on "Extra-Class Activities" with the expectation that this *Yearbook* would be ready for printing in 1927.

(15) Correspondence was read by C. H. Judd and Miss Hoefer concerning the possibility of a *Yearbook* dealing with "Health Education." It was voted that in view of our present commitments and of the numerous agencies that might better undertake the assembling of material on this topic, that we should not undertake a *Yearbook* on "Health Education."

(16) A proposal from Mr. Gary Myers suggesting a *Yearbook* on "The Prevention of Errors" was acted upon similarly to the foregoing proposal.

(17) The Secretary suggested that a *Yearbook* on "Mental Hygiene and the Schools" ought to meet a ready reception, and outlined his ideas of its contents. The Secretary was requested to communicate with various persons and report at the next meeting of the Board concerning the feasibility of such a *Yearbook*.

(18) It was voted that the next meeting of the Directors be held Saturday, February 1, 1925, in connection with the session of the National Education Association, and that there be a regular meeting in the fall, in October or November. The decision as to whether there should also be a meeting in May was deferred to the February meeting.

(19) It was voted that the Chairman of each *Yearbook* com-

mittee be asked to report at each fall meeting, showing the progress of his committee during the past year and citing its needs for the ensuing year.

(20) It was voted that the clerical expenses of committees be regarded as a legitimate charge against the appropriation of these committees, in addition to the travelling expenses incurred in holding meetings of the committees.

(21) In view of a suggestion that one of the *Yearbooks* be dedicated to an individual, it was unanimously voted that, as a matter of policy, the Board does not favor the adoption of this suggestion.

(22) C. H. Judd was requested by the Board to prepare, for presentation at the February meeting, resolutions on the death of S. C. Parker, who had been prominently connected with the Society for many years.

(23) It was voted that the selection of the presiding officers for the February meeting be left to C. H. Judd, with power.

REPORTS ON YEARBOOKS IN PREPARATION

In order that members of the Society may be informed concerning the activities that are in progress in the preparation of forthcoming *Yearbooks*, the chairman of each of the committees now definitely under way has been requested by the Board of Directors to present brief reports to indicate the purpose and scope of his *Yearbook*, the method of procedure that is being followed, and the progress that has been made. Members of the Society are once more urged to communicate freely with these chairmen upon any of the matters here set forth, to the end of making each *Yearbook* a truly co-operative undertaking.

I

THE YEARBOOK ON "THE TECHNIQUE OF CURRICULUM-MAKING"

Chairman: Dr. Harold O. Rugg, The Lincoln School of Teachers College, New York City.

The committee in charge of the preparation of this *Yearbook*, which is expected for publication in 1926, consists of Messrs. Franklin Bobbitt, F. G. Bonser, W. W. Charters, Ernest Horn, W. H. Kilpatrick, and Harold Rugg, chairman. A meeting of some members of the committee was held in April, and of others of the committee in September, 1924.

The intention of the committee is to put forth a critical study, frankly theoretical, organized around a series of moot questions. The assembling of previous research studies on the curriculum was originally contemplated, but is now abandoned because this has now been done by the Curriculum Commission of the National Education Association. An account may, however, be included of actual curriculum-making now going on in public school systems. The introductory material will include some discussion of the strategic importance of the curriculum, an account of the scientific movement in curriculum-making and the contribution of the "free-school" movement. The body of the *Yearbook*, however, will center upon the "how" of curriculum-making—how objectives shall be

* In the absence of any statement from the Chairman, this account has been prepared by the Secretary on the basis of notes taken of a statement by Dr. Rugg to the Board of Directors.

determined, how materials shall be selected, how modes of organization shall be determined, and how the grade-placement of materials shall be determined. An annotated bibliography will be prepared.

II

THE YEARBOOK ON "METHODS OF MEASURING THE EFFICIENCY OF TEACHING"

Chairman: Stuart A. Courtis, School of Education, University of Michigan, Ann Arbor, Michigan.

The advances made possible by the scientific study of educational problems have served to direct the attention of certain groups of educational workers to method in a new way. On the basis of certain evidence, the hypothesis has been formulated that "the value of what a child learns is determined almost completely by the way he learns it;" that is, by the method of teaching employed. The 'new' education, which throughout the world is winning advocates at an astonishingly rapid rate, is characterized by changes in classroom procedure far more radical than those in subject matter. If the claims made for the effect of method should prove to be well founded, then as revolutionary a transformation is likely to take place in education as took place when astrology changed to astronomy and alchemy to chemistry. The problem of method would, for our age, become the crucial problem in education.

The committee having this *Yearbook* in charge proposes to determine the validity of the fundamental hypothesis quoted above. The problem resolves itself into two parts, each of which should result in a yearbook. The first need is for reliable means of determining the method of teaching being used by a teacher and the degree of skill with which it is used. The second need is for reliable means of measuring the various aspects of the effects produced and thus determining the efficiency of the teaching from the various points of view.

The law of the single variable demands that, in the final measurement of comparative efficiency, method be the only variable factor. This means that teachers using different methods must be of comparable degrees of skill in the control of their method. It means also

the clear recognition of a fact, too often ignored in educational experimentation, that the product of teaching effort has many aspects and that no measurement of comparative efficiency is valid which does not include comparison of the effects produced in all the significant aspects.

Specifically, the work of the committee will consist of the following:

1. Determination of the significant objective characteristics of the various methods of teaching (question-and-answer method, project, problem, lecture method, etc.) and of methods of analysis, classification, and identification.

2. Construction of scales for the measurement of teachers' skill in the use of the various methods.

3. Determination of the significant products of teaching effort (as for a particular lesson in arithmetic, knowledge of how to add fractions, skill in adding fractions, initiative to use the skill in appropriate life situations, etc.).

4. Construction of valid tests for the measurement of each of the significant products.

5. Measurement of the comparative efficiency of the various methods of teaching in terms of the products determined upon.

6. Evaluation of results from the point of view of the determination of the contributions of method to results.

The various phases of the work of the committee differ greatly in their difficulty and in the time that will be required to complete them. The first step is comparatively simple. The second is only slightly more difficult. It is expected that these parts of the committee's work will be ready for publication in 1926. The third, fourth, and fifth steps call for the solution of many puzzling problems, and while the committee hopes to have further results to report by 1927, no definite time can be set at present for the completion of the entire labors of the committee.

All persons willing to co-operate with the committee by attempting objective definition and analysis of teaching procedure or by reporting actual observation of lessons under the conditions laid down by the committee are requested to write to the chairman, describing the type of assistance they are willing to render.

III

THE YEARBOOK ON THE "POSSIBILITIES AND LIMITATIONS OF TRAINING"

Chairman: Dr. Lewis M. Terman, Stanford University,
California

The committee on the 1927 *Yearbook*, consisting of Bagley, Baldwin, Brigham, Freeman, Pintner, Whipple, and Terman (chairman), met at Chicago on November 9, 1924, and outlined its program of work. This *Yearbook* will be devoted entirely to investigations on the *Possibilities and Limitations of Training*. It is the ancient question of nature *versus* nurture, with special reference to their influence upon the scores earned in intelligence and achievement tests. The committee regards most of the studies which have been made in this field as ambiguous and believes that the problem should be taken up anew in investigations which would be more conclusive.

The issues involved are of such fundamental importance in education that the committee hopes it may be possible to enlist the cooperation of many investigators. The paragraphs which follow indicate types of experiments that might be expected to throw light on the problem. The list is not intended to be exhaustive. Perhaps other lines of attack, even more promising, will be found. Minor studies can be published in the *Yearbook* in full. More extensive investigations could be published separately in monograph or book form and be merely summarized in the *Yearbook*. Manuscript for the 1927 *Yearbook* should reach the chairman by September 1, 1926.

1. Freeman and Terman have secured a grant from the Commonwealth Fund for a co-operative study of adopted children. Freeman will compare the mental resemblance between adopted children and their true sibs with that obtaining between adopted children and their foster sibs. Terman will compare true parent-true child resemblance with foster parent-adopted child resemblance. Both Freeman and Terman will welcome the co-operation of other investigators. Terman is using only foster children who were adopted in the first year of life by persons who had no knowledge of their heredity.

2. Studies should be made of the effect on achievement and intelligence scores of intensive training in the school subjects or in mind-training exercises. Groups thus trained for 6 to 12 months should be compared with control groups of equal ability at the beginning.

3. Intelligence tests should be given to relatively uneducated groups of children and followed by re-tests of the children after they have been subjected to good educational influences. Children entering school from exceptionally ignorant homes might be given B-S tests at school entrance and again after a year of schooling. Children adopted from poor homes into good homes might be followed up and retested. In all such experiments children of foreign parentage should be excluded.

4. Detailed clinical studies should be made of the results of special tutoring of individual cases of low I.Q. It is, of course, important that the progress made by such cases be rigidly checked up by objective methods.

5. Studies should be made of the success with which children of given mental ages can be taught material commonly considered too advanced for those mental ages. Examples: reading at mental age 4, multiplication table at mental age 6, fractions at mental age 6 or 7, map reading at mental age 7, "lessons" from fables or stories at mental age 8, reversing hands of clock at mental age 9, etc. Obviously, there is room for any number of experiments in this line.

6. It is extremely desirable to compare the relative influence on pupils' intelligence and achievement scores of such factors as (a) teacher training, teacher expertness, teacher salary schedules, teacher experience, etc., and (b) mental age of the pupils.

7. Studies should be made of the relative influence of mental age and length of school attendance upon achievement as measured by reliable and valid educational tests. Among 1000 ten-year-olds (excluding children of foreign parents) the length of school attendance would probably range from a few months to 50 months. To what extent do their achievement test scores depend upon attendance and to what extent upon Binet mental age? By utilizing the method of partial correlation to render constant the factor of age, it would be feasible to use children covering a wide range of ages. It may be pointed out that in making comparisons of this kind

most of the group intelligence tests are unsatisfactory because of too close similarity to the achievement tests.

8. The effects of improved nutrition upon intelligence and achievement scores should be measured. Similarly, the effects of operations and corrective work with crippled or sickly children.

9. Conclusive investigations should be made of the extent to which such musical abilities as pitch discrimination and sense of rhythm can be improved by training. Seashore has promised a contribution in this line.

10. In several types of investigations of the relative influence of endowment and training it is necessary to have a quantitative rating of the cultural status of the child's home. No satisfactory rating scale for this purpose exists. It is hoped that someone will undertake to complete one before December, 1925, or at latest before September, 1926.

11. There is another type of investigation that would be desirable, namely, teaching various bits of skill or knowledge to children of different mental ages and noting the amount of time required to attain a given degree of mastery at each mental age. Examples: learning new names for a list of common objects, to repeat the Greek alphabet, to use the Roman numerals, to say the alphabet backwards, to extract square root or cube root, to copy a diamond or other geometrical design, to tie a bow knot, to write codes, to tell time by the clock, to grasp the solution of a puzzle when shown, etc. Such experiments, although they would not afford direct evidence on the nature-nurture problem, would throw considerable light on the extent to which mental age classifications are desirable for purposes of instruction.

In order to avoid duplication of effort, those who are willing to undertake an investigation for this Yearbook should communicate with the chairman of the committee. Among those who have already promised are Seashore, Kelley, Mrs. L. S. Hollingworth, Franzen, and Ruch. It is hoped that many others will volunteer.

IV

THE YEARBOOK ON "EXTRA-CLASS ACTIVITIES"

Chairman: Professor Leonard V. Koos, University of Minnesota,
Minneapolis, Minnesota.

Among the aspects of school life, especially in our secondary schools, which have come in for increasing attention in recent years, are what are commonly referred to as "extra-curricular activities," *e. g.*, athletics, dramatics, debating, musical organizations, general organization of the pupil body, student councils, etc. In many places the amount of the pupils' time and energy devoted to them has been rapidly increasing, in some instances owing to what is intended to be constructive encouragement by teachers and school heads. In view of the dearth of materials helpful to those desirous of encouraging proper development in this field, the Society is fostering the assembly and publication, not later than 1927, of a yearbook devoted exclusively to problems falling under this main head. Those who have had opportunities to secure special information or experiences in this field should communicate with the chairman as soon after reading this announcement as possible.

PUBLICATIONS OF THE NATIONAL HERBART SOCIETY

(Now the National Society for the Study of Education)

	Postpaid Price
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THE
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NATIONAL SOCIETY FOR THE STUDY
OF EDUCATION

PART II
ADAPTING THE SCHOOLS TO INDIVIDUAL DIFFERENCES

Prepared under the Direction of Carleton W. Washburne

By

FRANKLIN BOBBITT, B. R. BUCKINGHAM, STUART A. COURTIS,
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HELEN PARKHURST, A. H. SUTHERLAND, MARY A.
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Edited by
GUY MONTROSE WHIPPLE

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MEETING OF THE NATIONAL SOCIETY, TUESDAY,
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TABLE OF CONTENTS

	Page
EDITOR'S PREFACE	ix
INTRODUCTION AND SUMMARY.....	x
SECTION	
I. FACTORS CAUSING MALADJUSTMENT OF SCHOOLS TO INDIVIDUALS	1
A. H. Sutherland, Los Angeles, California	
A. INDIVIDUAL DIFFERENCES AMONG CHILDREN.....	1
B. MALADJUSTMENT OF CLASS ORGANIZATION TO DIFFERENCES	16
C. EVILS RESULTING FROM MALADJUSTMENT.....	23
D. CONCLUSION	29
II. TYPICAL ATTEMPTS TO ADJUST SCHOOLS TO INDIVIDUAL DIFFERENCES	31
A. ADJUSTING TO INDIVIDUAL DIFFERENCES WHILE RETAINING THE ORGANIZATION AND THE METHOD OF THE CLASS SYSTEM	32
I. Coaching Laggards	32
An Example from Mount Vernon, New York.....	32
William H. Holmes, Superintendent of Schools	
II. Allowing Extra Time for Laggards.....	39
Some Features of Time Distribution at Gary, Indiana	39
William Wirt, Superintendent of Schools	
III. The Intensive Study of Problem Cases.....	41
An Illustration from the University of Chicago..	41
William S. Gray, Dean of the College of Edu- cation, University of Chicago	
IV. Ability-Grouping	44
1. Ability-Grouping in Detroit Schools.....	44
Stuart A. Courtis, Detroit Teachers College	
2. Ability-Grouping in Los Angeles.....	47
A. H. Sutherland, Los Angeles, California	
V. Differentiated Assignments	49
1. Differentiated Requirements in the Univer- sity of Chicago High School.....	49
W. C. Reavis, University of Chicago High School	
2. Differentiated Assignments in the Wisconsin High School	52
H. L. Miller and S. A. Leonard, University of Wisconsin and Wisconsin High School	
B. DEFINITE BREAKING UP OF CLASS ORGANIZATION FOR IN- DIVIDUAL WORK IN THE COMMON ESSENTIALS.....	58
I. Burk's Individual System.....	59
1. Individual System as Developed in the San Francisco State Teachers College.....	60
Mary A. Ward, Grace E. Carter, Hilda M. Holmes, and Cecilia Anderson	
2. Burk's Individual System as Developed at Winnetka	77
Carleton W. Washburne, Superintendent of Schools, Winnetka, Illinois	

SECTION

Page

II. The Dalton Plan.....	83
The Dalton Laboratory Plan.....	83
Helen Parkhurst	
III. Individual Work in the Primary Grades: An English Experiment	95
Individual Work in an Infants' School.....	95
Jessie Mackinder, Headmistress, Marlborough Infants' School, L.C.C., London, England	
IV. Individual Work in Los Angeles.....	100
1. Individual Work in Los Angeles Adjustment Rooms	100
A. H. Sutherland	
2. Individual Work in the Sixty-First Street School	102
Mrs. Margaret Smith, Principal	
V. Individualized Instruction in Detroit.....	106
The Development of Individualized Instruction at Detroit	106
Stuart A. Curtis, Detroit Teachers College	
VI. Individual Work in a Vocational School.....	114
Individualization of Work in the Vocational School at Madison.....	114
Mary Huntington Comings, Vocational School, Madison, Wisconsin	
VII. Individualizing the Work of Rural Schools.....	117
1. Individualization in One-Teacher Schools in Illinois	117
U. J. Hoffman, State Supervisor of Rural Schools, Illinois	
2. Individualization in One-Teacher Schools in Connecticut	122
R. N. Brown, Superintendent of Schools, Thomaston, Connecticut	
C. SUMMARY	130
III. STATISTICAL RESULTS OF EXPERIMENTS WITH INDIVIDUALIZATION	133
I. THE SOURCES OF DATA.....	134
A. Nature of the Investigations at Detroit and Some Conclusions	135
Stuart A. Curtis, Detroit Teachers College	
B. Nature of the Investigation at Winnetka.....	138
C. W. Washburne	
II. THE DATA	140
I. Does the Attempt to Group Children by Ability Result in Adaptation to Individual Differences?	141
A. Data on Ability-Grouping from Detroit.....	141
Stuart A. Curtis, Detroit Teachers College	
B. Data on Ability-Grouping from Los Angeles..	148
Elizabeth T. Sullivan, University of California, Extension Division, Los Angeles	
C. Data on Ability-Grouping from Winnetka.....	151
Carleton W. Washburne	
D. Data on Ability-Grouping from the San Francisco State Teachers College.....	154

	Page
Mary A. Ward, Grace E. Carter, Hilda M. Holmes, and Cecilia Anderson	
E. Data on Ability-Grouping from Iowa.....	159
Ernest Horn, State University of Iowa	
F. Summary of Data on Ability-Grouping.....	164
II. Does Individual Work Save Time?.....	167
A. Time Saving in San Francisco State Teachers College	168
Mary A. Ward, Grace E. Carter, Hilda M. Holmes, and Cecilia Anderson	
B. Time Saving at Winnetka.....	170
Carleton Washburne	
C. Time Saving Through Individual Work in Spelling	172
Jas. L. McCrory, Assistant Superintendent of Schools, Omaha, Nebraska	
D. Time Saving at Detroit.....	174
Stuart A. Curtis, Detroit Teachers College	
E. Time Saving at Los Angeles.....	176
A. H. Sutherland	
III. Does Individual Work Increase or Decrease Socialized and Self-Expressive Activities?.....	177
A. Socialized Activities in the Marlborough Infants' School	177
Jessie Mackinder	
B. Socialized and Self-Expressive Activities at Winnetka	178
C. W. Washburne	
IV. Does Individual Work Put Children Through School Too Fast?.....	183
Results of an Age-Grade Census at Winnetka....	183
Carleton W. Washburne	
V. Does Individual Work Decrease Retardation?.....	185
VI. Is Individual Instruction More or Is It Less Effective Than Class Instruction in Teaching School Subjects?.....	187
A. Data from London.....	187
Jessie Mackinder	
B. Data from Detroit.....	191
Stuart A. Curtis	
C. Data from Winnetka.....	198
Carleton W. Washburne	
VII. Does Individual Instruction Cost More Than Class Instruction?	201
Carleton W. Washburne	
VIII. Does Individual Instruction Place Too Heavy a Burden on the Teacher?.....	206
Carleton W. Washburne	
IX. How Does Individual Work in the Elementary School Affect Pupils' Efficiency in the high School?	208
A Study of New Trier High School Freshmen, Including Pupils Who Have Come from Winnetka Schools	209
Frederick Edson Clerk, Superintendent, New Trier Township High School	

SECTION	Page
III. SUMMARY OF STATISTICAL RESULTS.....	214
IV. THE VALIDITY OF THE CONCLUSIONS FROM THE STATIS- TICAL DATA	216
B. R. Buckingham, Ohio State University, Columbus, Ohio	
IV. PROBLEMS INVOLVED IN ADAPTING SCHOOLS TO INDIVIDUALS	223
A. Individualizing the Curriculum.....	224
Franklin Bobbitt, University of Chicago, Chi- cago, Illinois	
B. Textbooks and Tests with the Individual Method.....	231
A. J. Stoddard, Superintendent of Schools, Bronxville, New York	
C. The Daily Program Under Individual Methods.....	237
Carleton W. Washburne	
D. Promotions and Individualization.....	239
Carleton W. Washburne	
E. Size of Classes.....	245
Jessie B. Mackinder	
F. Supervising the Work of Individual Children.....	248
Jessie B. Mackinder	
G. Training Teachers for Individual Work.....	250
Stuart A. Courtis	
H. Summary	255
V. A PROGRAM OF INDIVIDUALIZATION.....	257
Carleton W. Washburne	
A. General Technique	257
B. Steps by Which to Introduce Individual Work.....	265
C. Summary	271
VI. AN EFFORT AT APPRAISAL.....	273
William H. Kilpatrick, Teachers College, Co- lumbia University, New York City	
VII. AN ANNOTATED BIBLIOGRAPHY ON ADAPTING SCHOOLS TO INDIVIDUAL DIFFERENCES.....	287
L. Belle Voegelien, Reference Assistant, Bu- reau of Educational Research, Ohio State University, Columbus, Ohio	
Part I. Individual Instruction, the Dalton Plan, the Decroly Method, and the Winnetka Plan.....	287
A. Individual Instruction	287
B. The Dalton Plan.....	304
C. The Decroly Method.....	310
D. The Winnetka Plan.....	311
Part II. Classification, Ability-Grouping and Promotion Plans	317
Part III. Supervised Study	336
Part IV. Differentiated Curricula and Courses of Study.....	352
CONSTITUTION OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION	365
MINUTES OF THE CHICAGO MEETING OF THE SOCIETY.....	368
SYNOPSIS OF THE PROCEEDINGS OF THE BOARD OF DIRECTORS.....	375
REPORTS ON YEARBOOKS IN PREPARATION.....	383
REPORT OF THE TREASURER OF THE SOCIETY FOR 1924.....	390
LIST OF HONORARY AND ACTIVE MEMBERS OF THE SOCIETY.....	392
INFORMATION CONCERNING THE SOCIETY.....	411

EDITOR'S PREFACE

In the *Twenty-first Yearbook* on "Intelligence Testing" and in the *Seventeenth Yearbook, Part II*, on "Measurement of Educational Products" much material was presented to demonstrate the striking range of individual differences found in the native capacity and the educational achievements of pupils. No one at all conversant with the facts there set forth can avoid the conviction that the mass instruction of pupils and the promotion of them in large groups annually or semi-annually, as we do in the regular grade system, whatever merits they may have administratively, leave much to be desired pedagogically. One method of meeting in part the difficulties of mass instruction was extensively treated in the *Twenty-third Yearbook, Part I*, on "The Education of Gifted Children," and in its predecessor, the *Nineteenth Yearbook, Part II*, on "Classroom Problems in the Education of Gifted Children." Is it desirable and practicable to carry differentiation still further—to the complete individualization of instruction? This is the issue raised in the present volume. Whether the reader thinks the answer is 'yes' or thinks it is 'no,' he will surely find the presentation of facts and arguments set forth by Superintendent Washburne's Committee of very lively interest. It seems to me that this *Yearbook* is a real challenge to the schoolmen of this country. I hope it will be widely read and as widely debated, for thus this Society will fulfill its purposes—"to carry on the investigation of educational problems, to publish the results, and to promote their discussion."

G. M. W.

INTRODUCTION AND SUMMARY

By CARLETON W. WASHBURN

Winnetka, Illinois

The widespread use of intelligence tests and achievement tests during the past few years has made every educator realize forcefully that children vary greatly as individuals and that any one school grade contains children of an astonishingly wide variety of capacity and achievement.

It has become palpably absurd to expect to achieve uniform results from uniform assignments, made to a class of widely differing individuals. Throughout the educational world there has therefore awakened a desire to find some way of adapting schools to the differing individuals who attend them. This desire has resulted in a variety of experiments.

These experiments may be classified under two general heads: there are those which seek to retain the present classroom organization with its comparatively uniform pace and annual promotions, and there are those which break away more or less completely from the traditional type of organization.

Among the former there are two types. The first type seeks to provide for atypical children by special coaching of the slower ones or plus assignments for the brighter ones, or a combination of these two. The second type attempts to subdivide each grade into ability groups as nearly homogeneous as possible—a bright group, an average group, and a slow group. These groups receive instruction which is supposed to be appropriate to the typical child of the group. The bright group may progress more rapidly than the others in some systems, or in other systems may simply have a richer curriculum or higher standards. Such ability-grouping is one of the most widespread forms of attempting to adapt schools to individual differences.

The second general class of experiments substitutes individual subject promotions for class promotions. Each child, within certain limits, moves forward at his own rate in the mastery of the common essentials of each subject. Special techniques have been developed to make this possible under public school conditions. Schools which

have this highly individualized work, however, usually confine it to the common essentials—those knowledges and skills which are going to be used by practically every one: reading, writing, the fundamentals of arithmetic, spelling, the formal side of language (punctuation, capitalization, etc.), and perhaps the factual side of history and geography. Having individualized such subjects, these schools usually provide many opportunities for group and creative activities—for projects in which many children can engage co-operatively, for discussions, dramatizations, self-governing assemblies, etc. These socialized activities are not usually made a means to the end of mastering the common essentials, but are rather a means to developing the child's initiative, originality, and co-operativeness.

It has been schools of the latter class which have contributed most of the experimental data bearing upon the effects of individual work. Statistical studies yielding significant results have been carried out in the San Francisco State Teachers' College, in Los Angeles, in Detroit, in Winnetka, and to some extent in the Marlborough School in London. These experiments have contributed sufficient data to justify at least tentative acceptance of the following conclusions:

1—Ability grouping is only a half-way step and does not fully solve the problem of adjusting schools to individual differences.

2—Individual work does save time, especially for the brighter children and those children who would normally be repeaters.

3.—In Winnetka, at least, individual work results in devoting an unusually large amount of time to group and creative activities.

4—The tendency of individual instruction does not seem to be so much toward getting children through school at an early age, as toward the using of saved time for broader and deeper education.

5—Individual promotions appear definitely to decrease retardation and corresponding over-ageness.

6—Individual work increases efficiency in the tool subjects.

7—There is no evidence that individual work costs more than class work. The meager data available tend to indicate that it does not affect costs one way or the other.

8—Individual work does not appear to place an undue burden upon the teacher.

9—Individual work in the elementary schools does not result in inability to do class work efficiently in high school.

There are a number of serious problems involved in any attempt to place schools on an individualized basis. Perhaps the most serious of these is the securing of suitable textbook materials. Another is the proper training of teachers.

The technique of individual instruction itself is still far too new to be definitely established. Questions arise as to size of classes, programs, the extent to which children should be allowed to enter high school or college at a younger age than is now customary, the question as to the basis on which class groups should be organized, the question of supervision, and above all the relationship that should exist between the individual work in common essentials and group and creative activities.

A tentative, yet practicable program of individualization, however, is presented in Section V of this *Yearbook*. The essence of this program may be very briefly stated:

1—The curriculum is to be outlined in terms of the common essentials on the one hand, and group and creative activities on the other.

2—The common essentials are to be subdivided into specific measurable units of achievement.

3—Complete diagnostic tests are to be prepared to cover each of these units of achievement.

4—Self-instructive and self-corrective practice materials are to be prepared to enable children to get ready for the tests individually or to repair deficiencies shown by the tests. These materials will probably ultimately result in a new type of textbook. Temporarily they may be merely assignment sheets accompanying, supplementing, and clarifying the ordinary text.

5—A simple record system is to be incorporated by means of which each child's progress may be noted.

6—Provision is to be made for individual subject promotions, not necessarily involving change of room, but merely continuance from the completed unit in any subject to the next unit in that subject.

7—Ample provision is to be made (about half the morning and half the afternoon) for a wide variety of group and creative activities.

It is felt by some that individual instruction is not the only alternative to the traditional class lock-step system. Some people, for example, feel that the project method, wherein each child contributes his particular part to a group project, possesses sufficient flexibility to make the necessary adaptation to individual differences. Unfortunately, statistical data and controlled experiments in support of this contention are lacking.

The issue between those who favor the project method and those who favor individual instruction is in certain respects a minor one. Both groups believe that every child should master the essentials. Both groups believe that the amount of practice and time that is sufficient for one child may be insufficient for another. Both believe that there should be much opportunity for socialized and co-operative endeavor and for self-expression. The fundamental question at issue is whether projects shall be used as a means of teaching the common essentials, or whether these common essentials shall be independent, though motivated and applied in projects—a difference which is somewhat academic, and concerning which neither side has any statistical proof of its superiority.

The line of demarcation between those who would individualize schools completely, and those who would use ability-grouping or systems of coaching laggard children and enriching the education of the brighter ones, is also clear, but not of grave consequence. Most people who advocate ability grouping, if they are thoughtful and are familiar with the wide differences that exist among individuals, recognize that ability grouping is but a step toward individualization—a step which makes individual instruction easier both to initiate and to incorporate. To stop at ability groupings would be to fail to solve many of the problems involved in the differences that exist among children. Yet ability grouping is one of the best first steps toward individual instruction.

As to coaching of laggards and enriching the curriculum of bright children, these, too, become simply preliminaries—and helpful preliminaries—to complete individual instruction. Almost every child is at some time in some subject either a laggard or above average in his rate of progress. Methods which are now only applied to the extreme cases will naturally in time be applied to the less aggravated cases.

The diversity of the experiments is after all rather an encouraging sign. Out of the accumulated experiences and the heated discussions of the advocates of various forms of individual work will come clearer light and better technique. This will enable schools truly to adapt themselves to the wide differences that exist among individuals and at the same time to encourage socialized activity and a co-operative spirit.

Complete individual instruction means developing the individual on his social side fully as much as it means developing his initiative and his originality, and fully as much as it means giving him an opportunity to master at his own natural rate each element in the common essentials.

SECTION I

FACTORS CAUSING MALADJUSTMENT OF SCHOOLS TO INDIVIDUALS

This Section of the *Yearbook* attempts to set forth the basic reasons for individual instruction. Dr. Sutherland, through his extensive experience first as a 'regular' psychologist and later as school psychologist for the public schools of Los Angeles, delves into the various factors causing maladjustment of the present lock-step system of schools to the differences existing among individual children.

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A. INDIVIDUAL DIFFERENCES AMONG CHILDREN

1. Fundamental Differences

The progress of our day in the science of education is nowhere more evident than in the field of individual differences. Here is clear recognition of the fact that it is the individual child who is to become the citizen, the leader, or the criminal, the public charge; and that both the material and spiritual values of the age will depend in large measure upon the habits and attitudes set up in the schools on the part of each individual child.

But public education is not keeping pace with the proved outcomes of research in this field. Mass methods are still in use, although they have been shown to be not only unintelligent, because impossible of specific direction, but actually brutalizing in their effect upon both pupil and teacher. For when pupils are at work at a level too high for their intelligence, the effect is brutalizing; when they are at work at a level too low for their intelligence, the effect is again brutalizing; and when teachers in large numbers reach a state of violent outburst over iniquities of organization which prevent them from doing their best work; or fall into a passive routine attitude of hopeless fatuity, still the effect is brutalizing.

This is not to say that the schools are no better than they were twenty-five or thirty years ago, but to say that, although they do constantly improve under criticism, there is yet need for criticism more specifically directed. If, in addition to pointing out just what is wrong, and why it is wrong, the critic can point to his own successful efforts to improve the situation, his criticism, of course, gains in force and value. Radical improvement, however, is impossible without recognition of individual differences. Such recognition necessitates changes in administrative organization and procedure, not merely to keep up with the known facts about the needs of children under training for effective citizenship, but even more to make possible craftsmanship and professional ideals.

We are slowly emerging from the 'patent medicine' age in education during which, without attempting to discover the exact nature of a given difficulty, we prescribed one single remedy, by topic and page, to cure all ills. Dr. Bobbitt's statement¹ of certain types of training which the teachers of the future will require, opens the way to more scientific diagnosis and treatment.

This concept of Individual Differences has come to include two rather distinct subjects of inquiry that are overlapping at present and therefore confused. One field compares children *en masse* in order to establish norms and standards of investigatory procedure. It deals with intelligence tests, subject matter tests, methods of averaging indices, etc. It is founded on the hypothesis that the children now in school are placed as they should be, and are making, on the average, progress according to their abilities. Kelley² explains that "there are three factors which make for overlapping: (1) unreliability of tests, (2) unimportance of the function tested, (3) failure of proper classification." He adds the warning "and only insofar as the first two are known to be the causes [of overlapping] can improper classification be established."

There is, however, another source of information and type of evidence which does not fall within the province of the statistician. It is familiar to the research man in a city school system and is known as "weeping, wailing, and gnashing of teeth." This occurs

¹ Franklin Bobbitt. "Discovering and formulating objectives of teacher-training institutions." *J. of Educ. Research*, 8: 1924, p. 187.

² T. L. Kelley. "The measurement of overlapping." *Jour. of Educ. Psych.* 10: 1919, p. 229.

when the order comes from above to give forty children to each teacher. Forty children must then be found, and they are found, and distributed with little or no regard for individual differences. Tests standardized on such distributions are, of course, of little or no value in the study of individual differences.

The other field of inquiry, although often confused with the foregoing, is in reality quite different. It concerns itself with the child as an individual, with his conditioned reflexes, and the entire range of his abilities and disabilities. It issues in the psychograph, which shows the abilities present in larger and smaller amounts, and the general average of ability of that particular child. His learning methods and the conditions under which he can learn most rapidly are a part of such studies. Qualitative studies of the onset and course of development of the abilities in infancy and early childhood also belong to this field of inquiry.

Both these groups of workers can and do make important contributions to the growing science of education. One group inevitably offers inspiration to the other, and each sets problems for the other. At the present time, for example, there is no lack of objection from workers in the psychographic field to the wholesale generalizations of the statistical group. Thus Fernberger³ has said: "Mental tests are so variable within a homogeneous group that differences between two groups do not have statistical significance. Less weight should be given to final scores. The test is a standardized means of having the subject do something so that the trained observer may note his behavior."⁴

H. T. Manuel also warns that large group methods cannot be applied to small groups or individuals. "Education," he says, "can never be accomplished *en masse*, or on the average. It is a personal, individual process. We must be careful not to confuse instruments and methods of scientific research with the instruments and methods of the art of teaching."

Heredity is recognized by other workers as the most important

³ S. W. Fernberger. "Statistical and non-statistical interpretation of results." *Psych. Clinic.* 14: 1922, p. 68.

⁴ See also H. T. Manuel. "On a certain statistical danger." *Ed. Adm. and Superv.*, 9: 1923, p. 465; and Lightner Witmer. "Intelligence a definition." *Psych. Clinic.* 14: 1922, p. 65; and "The analytical diagnosis," *ibid.*, p. 129

factor in the differences noted. Thus Thorndike,⁵ summarizing the literature in 1913, says: "The wide range of achievements of pupils of roughly the same school training suggests that differences born in them play a large part in determining the differences eventually found in them." Karl Pearson⁶ takes the same view of it: "General intelligence and a variety of psychical characters seem unchanged throughout the whole range of school life. *It is therefore not possible for the teacher to change them.*"

Still, the nature of the general intelligence discussed by these writers is vaguely defined. McCall is quoted by Mrs. Hollingworth⁷ as follows: "There is an objectively and practically measurable something which constitutes the core of most aptitudes. It is overlaid with various incidental abilities, and furthered or retarded by emotional and physical characteristics of the individual. This something is general intelligence." British and American psychologists have attempted definitions of intelligence and are generally agreed that it is somehow concerned with ability to learn.

It is now held that this general intelligence, this vague something, is inherited, but not as a unit, since the "all or none" principle does not seem to be followed in the inheritance. This general factor seems not to be improvable, according to data gathered with present methods and standardized upon overlapping school grades. The question of the final criterion is an important one. The suggestion that "improvability" be the criterion has been made, and seems likely to be fruitful.⁸ The recognition of a "fringe" is still legitimate.

The inheritance of special abilities and disabilities would seem logically to fall in line with the discussions of inheritance of general intelligence. Yet more open-mindedness is apparent in the discussions. Here, again, the differences of point of view regarding the nature of general intelligence confuse the issue. It is difficult to distinguish the special ability in the point of view of Thorndike.⁹

⁵ E. L. Thorndike. *Educational Psychology*. 3: p. 149.

⁶ Karl Pearson. *Studies in National Deterioration*. IV.

⁷ Leta S. Hollingworth. *Special Abilities and Disabilities*. p. 33.

⁸ A. T. Poffenberger: "The influence of the improvement in one simple mental process upon other related processes." *Jour. of Educ. Psych.* 6: 1915, p. 459. Also E. L. Thorndike. "Variability in repetitions of the same task." *Jour. of Exp. Psych.* 6: 1923, p. 161.

⁹ E. L. Thorndike. "The reliability and significance of tests of intelligence." *Jour. of Educ. Psych.* 11: 1920, p. 284.

"Intelligence then is not one thing but many. Intelligence measured by one kind of instrument then seems to be something very different from intelligence measured by the other." Numerous studies of the inheritance of special abilities have been made but, because of this confusion, are difficult of interpretation. Arithmetical ability, spelling ability, musical talent, etc., have received attention.

Child studies during the earlier years of life indicate how the original nature is modified by experience and environment. Watson was able to change instinctive fears after a short time. During the earlier years, when the nervous system is most plastic, there appears to be greater possibility of modification. The pre-school child is rapidly coming into his own. Throughout, the view is held that children do not differ in respect to the presence of the ability. All children (at least those over 70 I.Q.) possess each of the abilities in amounts sufficient for satisfactory performance and progress, but the amount of the ability possessed at the time of test differs from child to child.

Children at the time of test may be thought of as having climbed by various amounts along the rise of a learning curve. The test result, so far as it is accurate, indicates the stage the development has now reached. The ability to learn is present in every normal child, by definition. A consideration of opportunities for learning, as a possible cause of the individual differences, is then in order. These opportunities are present to all, in the sense that a river presents an opportunity to swim. But the exhilaration and joy, the increase in confidence and power, are present in varying amounts. Only to the swimmer who takes full advantage of the situation is it a real and present opportunity. If there is no competition, if each one can stay close to shore and employ his feeble and undeveloped efforts regardless of the others, the river may offer to all an equal opportunity, in one sense, but its value, as measured by performance, will be very different in different cases.

Every experiment systematically performed yields some data regarding the modification of abilities by the experiences of home, school, laboratory, or playground. Differences of motor skill, sensory discrimination, perceptual and conceptual abilities, while they must have an inherited basis, become useful when recognized and skilfully employed. Certain principles important for education emerge from all these studies, and may be thus formulated:

1. No group has yet been found in which the individuals composing it possess equal amounts of any one ability.
2. Performances vary so greatly as to indicate that no single requirement is adequate as a stimulus to a majority of the group.
3. To study the development of a learning process it is absurd to set up as a standard a definite quantity of performance and expect each member of the group to accomplish just that amount and no other.

In addition to these inborn differences, the conditions under which children learn produce further differences. Laird¹⁰ has studied the responses of students in the high school to different incentives. Reprimands, sarcasm, ridicule, low grades, extra work, conferences with parents, friendly talks with the pupil, corporal punishment, praise, remission of assignments, honor books, scholarship fraternities—all these have varying influence upon pupils of different natures.

Knowledge of results makes a difference in the performance, and the differences of initial ability seem to be increased rather than decreased by this factor. Arps¹¹ found it true in the ergograph experiment. L. T. Spencer,¹² repeating Judd's experiments, found increases.

The instructions, or *Aufgabe*, have been recognized as a fruitful source of differences. Thus, Kirkpatrick¹³ set two groups at the same task, but with different instructions. One group increased in skill only; the other increased in intelligent reasoning about the activity. Differences in the ability to comprehend, carry in mind, and perform, are known, not only through the directions tests, but as part of the test procedure in nearly all tests.

The general effects of practice, transfer, if at all, in different amounts in different individuals. Poffenberger (*loc. cit.*) found this

¹⁰ Donald A. Laird. "How the high-school student responds to different incentives to work." *Ped. Sem.* 30: 1923, p. 365.

¹¹ G. F. Arps. "Work with knowledge of results *versus* work without knowledge of results." *Psych. Rev., Mon. Supp.*, 28: p. 40

¹² L. T. Spencer. "The effect of practice without knowledge of results." *Am. Jour. of Psych.* 34: 1923, p. 107.

¹³ E. A. Kirkpatrick. "An experiment in memorizing *versus* incidental learning." *Jour. of Educ. Psych.* 5: 1914, p. 405.

in his experiments. W. H. Winch¹⁴ found that the practice in solving arithmetic problems showed 150 percent improvement, and transferred to logical reasoning, on the average, about 30 percent.

Somewhat akin to the *Aufgabe* as a producer of differences, though more fundamental, since in the experiment it is rightfully assumed to be present, is "*the will to learn*." In the schools the assumption implied is that the child is like an adult, with all the intelligent adult's sense of values and capacity for setting himself at work, as well as devising his own methods of work. Book and Norvell¹⁵ give credit to the interest in improvement and the feel of success in the one particular activity which then engages attention. "Interest in improvement sets up initiating, selecting, and fixating of more efficient methods of control. Without this interest in improvement as such and an exact knowledge of the results, a wrong or inefficient method of response may be formed and practiced until fixed as a set type of reaction to the task imposed. Interest in improvement and belief in its possibility aid mental adaptation and the formation of new and better methods of work." According to the authors, failure of pupils is frequent, if (1) they feel something else is more important, and receive rewards for things other than the one thing on which they are supposed to be at work; if (2) they don't care to put forth the effort, for a variety of reasons; if (3) they don't know how to work or to think up new methods. It should be added that, in the crowded grade, it is the business of no one to see to it that pupils are working at their level of development, or that effective methods are being used. And finally, the child is most certainly not an adult.

The inheritance, modified constantly and in different amounts for different abilities, and from child to child, results in the complex hierarchy of individuality. In respect to the hierarchy of mental traits and the relative amounts of various abilities which operate in a given situation, the methods of partial and multiple correlation have come into more frequent use. Many interrelated factors come into play in the performance of a reading test, and in performing

¹⁴ W. H. Winch. "The transfer of improvement in reasoning." *Brit. Jour of Psych.* 13: 1922-1923, p. 370.

¹⁵ W. F. Book and Lee Norvell. "The will to learn; an experimental study of incentives." *Ped. Sem.* 29: 1922, p. 305.

an intelligence test of the linguistic type. Wendell White¹⁶ finds that there is a large overlapping, to such an extent as to suggest that perhaps all linguistic intelligence tests should be classified as reading tests. Practice at reading silently affects the Otis Group Intelligence test as follows:

Group	1st M	2nd M	Percent Increase
1.....	109.96	119.59	8.75
2.....	72.28	80.93	11.97
3.....	120.20	137.00	13.98
4.....	99.38	122.56	23.32
5.....	96.15	121.15	26.00

Certain abilities which seem not to be contained in the present conventional tests are listed by Haughton¹⁷ as being present in the experiments of Peterson:¹⁸

1. The ability to attack and solve a problem without getting confused.
2. The ability to give attention longer than is usually required in mental tests.
3. The type of attack made by the subject.
4. The speed of the subject at the type of problem concerned.

Other types of tests and experiments which have been used under varying conditions and with a less degree of standardization are: tests of mental alertness, originality, esthetic appreciation, memory, linguistic organization, creative imagination, riddle-solution; also a qualitative analysis of abilities necessary in scientific thinking and in the study of geometry. How far these types of activity and tests present factors which are not to be found in present intelligence tests, and how far these factors may modify thinking about mental organization, is not yet determined. Such a book as that of Bentley, who definitely recognizes mental organization as a problem, is significant of the new sense of values in this field.

¹⁶ Wendell White. "The influence of certain exercises in reading on scores in the Otis Group Intelligence Test." *Ed. Adm. and Superv.* 9: 1923, p. 179. E. L. Thorndike. "On the organization of the intellect." *Psych. Rev.* 28: 1921, p. 141. Curt Rosenow. "The analysis of mental functions." *Psych. Rev., Mon. Supp.*, 24: 1917.

¹⁷ B. F. Haughton. "The interrelations of some higher learning processes." *Psych. Rev., Mon. Supp.*, 30: 1921.

¹⁸ Joseph Peterson. "Experiments in rational learning." *Psych. Rev.* 1918, p. 433.

To sum up: Scientific inquiry is proceeding in two overlapping fields, with a variety of methods, the results of which are not clearly interpretable as yet. But the conclusion is certain that individual differences are due in some degree to inheritance and are magnified by experiential modifications and the resulting mental organization. The new science is making steady progress with quantitative methods in dealing with problems of great complexity. The development of citizenship must take account of the actual facts in this wide range of raw material, recognizing the fact that children differ in inheritances, general and specific, and in the will to use and further develop the modification of abilities. The first task in intelligent education, then, is to discover the amount of development which has already occurred in any bit of the raw material which is to be transformed into effective citizenship; the second is to discover a means to develop greater ability; and the third is to justify the methods employed by a demonstration of the amount of development actually achieved.

2. Consequent Differences Among Children in School

Superficially, children seem to be alike. Any attempt to determine how far they are alike results at once, as we have seen, in a clear demonstration of the fact that they are not alike in the amount of ability to perform. General intelligence, it is true, is present in all in some amount, but specific abilities are present in an amount which places each child somewhere along the line of a progress curve. But for the comprehension of any particular task or lesson, whether on the playground, in the classroom, at recitation, during the study period, or in the social groupings or competitions, the crucial question is just what amount of general intelligence, or just what amount of the special ability is required. Since the professional aim is the development of that complex of abilities with which directed education is concerned, it is clear that the procedure which ignores the amount of ability actually possessed in a given case fails to begin the task intelligently.

Varying Intelligence Quotients

Data regarding the distribution of general intelligence have been given in various books and articles during the past few years, and

are available to all as standards. The amount of ability present in any classroom in any locality may vary from these standards. The general fact that there are different amounts of general intelligence present in any group becomes apparent from frequent samplings. The specific amounts of abilities present in any group can be known only by repeating the measurements on the group in question.

The establishment of standards of work for the group and for the individuals making up the group can be determined only empirically at present, for the amount and kind of work to suit the level of general intelligence is known only by the successes and failures of the pupils who attempt it.

Since each individual pupil possesses a larger amount of some one ability than of another, it follows that intelligently directed education demands that he work at one level in subject A (which requires the greater amount of ability) and at a lower level in subject B (which requires a less amount of ability). Slowness of comprehension of the concepts and values in geography, for instance, requires greater time, more drill, or clearer illumination of purposes; whereas slowness of comprehension of the concepts and values in literature requires chiefly opportunity to proceed in accordance with the amount of ability already possessed.

Varying Achievement Quotients

The Achievement Quotient (A. Q.) is the ratio between the average score in educational tests and the intelligence score. R. Franzen is credited with the first use of this ratio to indicate the extent to which pupils are working up to their ability levels. It is an average of averages, in a sense, and offers to the school administrator or to the teacher who desires a survey of the general effectiveness of the work over a period of time, an index figure by means of which to compare the development attained, and as a guide to further efforts. However useful this index figure is for this purpose, it obviously fails to convey to the teacher the specific needs of pupils for instruction. The nature of the tests used, since they are aimed at the gathering of an average score, fails to bring out those specific abilities which are strong or weak. The aim of sampling is not the aim of instruction.

Achievement quotients, then, showing as they do, general averages, conceal rather than reveal existing individual differences.

Efficiency Quotients

The efficiency quotient, or educational quotient, may be obtained from one test or by averaging the scores of a number of tests. In any group the spread of scores is wide, indicating a wide range of abilities present in the group. The more definitely the test reveals the operation of one simple mental ability, the more nearly it reveals the amount of ability which it is the business of the educator to develop. On the other hand, the more complex the test and the more mental ability the pupil must employ to meet it, the more the individual variations are concealed. Thus, the composite test in arithmetic, calling for operations in four fundamentals, fractions and decimals, shows the general average of ability to handle the fundamental formal processes, while the test of addition alone shows the amount of ability present in the pupil at that one type of operation.

The accuracy of interpretation of the test for the purpose of improving the abilities which are weak and further strengthening those which are strong will depend not only upon the simplicity of the test, but equally upon a recognition of the limits of the field covered by it. Not infrequently, a test of fundamentals in arithmetic has been called an arithmetic test, and the pupil has been credited with arithmetical ability in accordance with his test score; and similarly, a test of certain abilities in geography, reading, and so forth, has been called a geography test or a reading test; and in each case the pupil has been credited with ability in the whole subject. Promotions have been given on this score that have proved unfortunate, since a short stay in the higher grade showed that the pupil lacked the ability to handle other phases of the subject with equal efficiency.

Our knowledge of the operations or methods which any one pupil has adopted to meet a given type of school situation is as yet fragmentary. The pupil in the earlier stages of addition may surprise the teacher and the tester by solving problems in addition which are beyond his present lessons; yet closer individual inquiry may reveal that he is counting instead of adding. The geometry test which is intended to reveal excellence in reasoning may apparently show a certain amount of such ability while in reality the pupil

may be using memory. Misled by the name given to the test, the teacher may thus arrive at an inaccurate conclusion.

Differences of ability are in reality shown in another way—that is, by the pupil's response to a test which calls in a simple, direct way for the exercise of the specific ability in question, unconfused by any other issue.

Different Pupils Need Different Amounts of Time to Master Any Given Topic

The amount of time required by any particular pupil to master a topic will depend upon the amount of ability, general and specific, that he possesses at that time, and upon the possession of the necessary preliminary information and method. Concepts which are foreign to the pupil's previous experience and training, say in the history lesson, are comprehended with difficulty, while familiarity with the concepts will facilitate comprehension of the whole topic. A variety of psychical characteristics also influence the amount of time required by the given pupil for this topic. There is possibility of a large variation in the pupils of any group with respect to the complexity of detail of the vocabulary. Thus, the pupil who, asked to describe "cow" answered, "A cow is an animal about three inches long and two inches high, usually pink," had sufficient development of the concept to pass a reading lesson, and perhaps even a reading test. But the organization of the concept in relation to beef, hide, shoes, trunks, gelatine, milk, food, shipping or markets, might be required in another lesson. The extent of the organization of the concept, the practice in using the whole concept or some one of its relations, markedly affect the amount of time required in the mastery of a topic.

Differences in pupils are also shown in "conscientiousness." One pupil goes over and over the topic until words and phrases are closely associated with other words and phrases. Another pupil skims the topic and secures certain points he thinks important. The ideal of mastery means different types of mastery to different pupils. Not merely mental alertness, but alertness with reference to different purposes, affects the time required in the mastery of the topic. Thus, the pupil taking the reading test may read the question first, then turn to the paragraph to find the word or words which

give the answer. Another pupil may adopt a different "method of comprehension."

Varying Rates of Progress by the Same Pupil at Different Times

It has been shown by Horn and by Burk that pupils learn more rapidly at one time and less rapidly at another time. Laboratory students in the university are well aware that the state of feeling is not an accurate index to the day's performance. The day after the circus or the day before the circus presents difficulties. A happy experience of the night before may give the pupil an insight or a new incentive or a greater determination or a greater persistency for a time. The advent of spring affects pupils differently and produces differences in the immediate learning rate.

If subject matter were organized in even steps (scaled), it is conceivable that learning might be a smooth unbroken advance; but since topics and exercises differ in complexity, meaning, and application, it follows that there is a larger and more difficult task in mastering certain topics than in others. Moreover, the clarity of the presentation, and the immediate applicability to familiar uses make certain topics easier of comprehension than others, and give an appearance of greater facility of learning at one stage than at another.

Varying Amounts of Drill Needed

Drill, therefore, is most effective when specific to the different needs of the pupils. Routine processes, it is true, are more rapidly picked up by pupils of greater general intelligence, but certain dull ones show similar facility. Thus we have come to recognize a characteristic called "verbal facility," sometimes possessed by backward pupils, who learn the multiplication table, for instance, as a verbal sequence, but show little or no ability in applying the process. Since so much of school education at present depends upon verbal facility, those who possess it have an advantage in the performance of such linguistic activities, at the same time that pupils of really greater general intelligence require more drill to bring their verbal abilities to the same level of performance. Obviously, these pupils with verbal facility but lowered general intelligence, require opportunities for development quite other than the display of their peculiar facility. Much time is wasted by setting drill as a stint for all to perform regardless of the amount of the ability which has already been

developed. The time at which drill is needed, and is therefore most effective, also differs. If the pupil, outside of school, has been drilled in certain abilities and can proceed with his development, there is a waste of his time if this period is taken for drill he does not need.

Different Methods Are Needed by Different Pupils

The term "methods" may refer to teacher methods, or to pupil methods. Teachers who have been trained in one normal school in the year 1900 have been given one method of reading to use for all; teachers trained in another normal school in the year 1920 have been given another method of reading, perhaps to use for all. The thought that each teacher should have at her command a large variety of methods seems worthy of consideration.

Pupils naturally adopt different methods. In a study of arithmetic problems they are differently affected by the size of numbers, the notation in which the numbers are expressed, the complexity of sentence structure, the closeness of association between formal number relations and their applications. Nervousness may become habitual and express itself in various grimaces and random movements with pencil or free hand. Certain pupils try the "stab in the dark" method and await the teacher's pleasure; other pupils try to visualize the stated situation, and still others adopt a reasoning process—"yesterday I did this so-and-so and I'll try the same way today," etc. But is there a "right" method? If there is, what are its characteristics and what is the later significance of the "rightness" of that method? And does this mean the isolation for development of a certain ability which will become integrated in a more complex ability at a later date? Owing to differences of experience which have in the past relieved pupils of embarrassment before the class, at the board, or in private conference, there is a difference of method of attack.

Different Interests and Emotional Reactions

Pupils are differently organized in the amounts of interests and the emotional complexes which are integrated with their activities. But the terms used for the description of these organizations are vague. The interrelations and overlapping of these "fringe" components in the total organization of intelligence must await further research from the quantitative standpoint.

Certain emotional components, however, have been known to influ-

ence the work of the pupil and have been shown to be susceptible of modification. Thus, fears are a persistent source of difference in pupils. Fear of the principal, fear of the teacher, fear of other pupils, fear of arithmetic, fear of long division, fear of ridicule, fear of standing before the class, fear of certain playground activities, these and many other fear complexes characterize and distinguish pupils. The sense of values, of self-reliance, of determination, of liking for teamwork, of enthusiasm for group action, depend to some extent upon the emotional organization. Ask a pupil whether he would rather stand before the class and sing a song, or whether he would prefer to sing as a member of the class, and the eagerness with which he responds will at once distinguish him from others.

Some pupils are consciously afraid of some parts of their work, not so much because of the work itself, as because of the probability that the recitation will yield only criticism and ridicule when their lack of facility of performance is shown. A far greater number is unconscious of the fact that the inability "to make things move" or "to get on with the problem" is an inhibition of the fear type. "I can't" or "I don't know how" is sometimes the pupil's way of saying, "I am perfectly willing to make a huge effort but the pathway of expression seems closed off."

The habit of refusing to make the necessary effort is easily formed. The pupil who "takes to" athletics, where purposes and aims are clearly set up as the first step in learning and where methods may be learned by imitation and varied by initiative, sets up a certain type of organization for solutions, quickly and joyously. This organization may be his one outlet, though this is perhaps rarely the case. Other pupils find inspiration in other types of skilled manual or reading or esthetic interests. The feeling of ease with which this organized mental ability expresses itself may facilitate the development of abilities in related lines and yet may inhibit the development of abilities in other lines. The common factors may be emotional. The general attitude of anticipation of embarrassment or failure will then tend to become habitual and with it the characteristic inhibitions of effort.

The "will to learn" is present in pupils in different amounts. Time allowed for the development of incentives would well repay the teacher in the saving of time and energy per unit of work. The pu-

pils who approach school tasks with an urge which has its source in home influence, and which is constantly being developed by discussions and applications from the home group, are likely to possess this general emotional attitude in larger amount. The possession of this attitude is not correlated with the economic status of the home, nor even with the well-meant efforts of the parents.

A source of difference of pupils in school is found also in the abilities to make applications. These abilities assume an intellectual ability to seek for, isolate, and clearly envisage an aim or purpose or goal. Certain pupils possess these abilities in considerable amounts, but do not perform so satisfactorily on assigned work, recitations, or other situations where verbal facility carries the pupil through. Occasionally, one finds the pupil who possesses these with other abilities in large amounts and rejoices in the work of such a pupil.

To summarize: Pupils differ in school by reason of the development of their general and special abilities to various points along the rise of a learning curve. This is responsible for idiosyncracies of development of the foundations of apperception and of activity, which in turn put each pupil at a disadvantage and hinder his development in certain abilities which should grow out of the underlying matrix. Therefore, different amounts of time are required by the various pupils for the mastery of topics; different amounts of drill are needed for the development of abilities; different methods are needed by different pupils; and the pupils vary in their response to environmental conditions. Their emotional urge and interest build inhibitions and facilitations which further distinguish them as individuals. These differences should be given the time, effort, and the opportunities for solution which their importance for citizenship demands.

B. MALADJUSTMENT OF CLASS ORGANIZATION TO DIFFERENCES

1. Administrative Organization in Class Promotion

Standardization of administrative organization and procedure is necessary. Among the policies which must be established, and for which someone must be held responsible, is that of the teacher load. Suppose that forty pupils are decided upon as the number of

which each teacher must take charge. Forty pupils must then be distributed to each teacher with the least possible disturbance

Now, the foregoing discussion of individual differences has shown that no group of forty children can be brought together of equal, or even approximately equal ability. Yet this group is to be promoted as a whole in recognition of the work done by the pupils composing it. To be in any sense an adequate recognition of their work, such group promotion must depend upon the way the pupils are selected in the first place. But in actual practice the selection depends upon psychologically irrelevant factors, such as the circumstance that the pupils have some of them been in the school the previous year; or that they are of a certain age, or size, or troublesomeness; or that their parents insist; or the pupils solicit such a placement. The result is inevitably a mixed group, selected not on the basis of the possession of approximately equal amounts of ability to do the required work, but simply in order to complete the required quota.

Even were the group better selected, we must remember that the amount of ability required in a given grade is not known. For a considerable period, the textbook has been the rough and ready guide. Mastery of the textbook has been taken as equivalent to ability, and the rough and ready procedure, recognizing that perfection is unattainable, has set up 70 percent work as a minimum; but the meaning of this 70 percent is undeterminable. The levels of difficulty of work assigned to a grade—other than textbook work, such work for example as sloyd, music, or drawing—are also unknown. The mental picture of a group selected on the basis of criteria so unrelated to any goal, such as citizenship or any other definite goal, resembles nothing so much as a phantom of cubist art.

Under such a system of placement, some 85 to 90 percent of pupils will be promoted, except in the lower first grade and certain departments of the high school. The proportion depends upon the amount of pressure brought to bear upon principal or teacher. Guided by the same uncertain standard, the teacher will say that the group one year is a very bright group; another year that it is a rather slow group. But whatever her opinion, there is pressure from below and vacancies to be filled above, and the pupils, like logs jammed in a stream, must be moved. Forty pupils must again

be found to constitute a full load for the teacher. And with these problems to the fore, no attempt is made to ascertain the actual amount of ability that has been developed during the term. Indeed, no standard has been set up by which it could be determined. When pupils must be promoted, demoted, transferred, and re-grouped for administrative purposes, then, it is impossible, under a group instruction system, to have individual standards; yet any other standards will fail to disclose the progress of the individual.

Again, this 70 percent standard is an unsatisfactory one by which to measure fitness for promotion; for if 70 be understood to mean that percentage of fitness to proceed, it is clear that the pupil is not ready to proceed. If this mark represents an average of the various abilities, then some of them are above 70 percent and some of them are below. It is obvious that great gaps will thus exist in the foundations of such pupils, and each gap will fail to support the greater abilities required for later development. Pupils thus selected for advancement to any grade are unequally prepared to do the work of that grade, and therefore the work presents different degrees of opportunity for development to different pupils. The arrangement prevents many of them from having the opportunities they are currently supposed to have. For, as we have seen, opportunity is rightly measured by the extent to which there is ability to take advantage of it. Exposure to recitations is not, in any adequate sense, opportunity.

Among groups selected by this method, concerted work, except in music and play, is practically unknown. The abilities of the brighter pupils are not evoked by the too-easy tasks; while those of the less developed pupils are further blunted on tasks too hard for their powers. Thus the group work, not properly concerted, hurts all, for the unequal amounts of the several abilities within the individual can be adequately employed only by suiting the task to the level of ability actually attained.

2. Uniform Course of Study

The course of study in the past has been uniform, thanks to manufacturers of textbooks. There are, indeed, courses of study which consist merely of lists of topics from the textbooks showing the number of pages to be covered in a given time. The administration

of the course of study has been uniform also in the sense that every pupil was expected to master the same portion of it, to approximately the same degree of perfection, and in the same time.

With the passing of teacher methods, and the growing recognition that it is *pupil* methods which are of greatest importance, a distinction has been made between subject matter as set down in print and those useful concepts, ideals, and activities which the pupil as an effective citizen is to employ. But whatever the ultimate goals—whether in terms of subject matter or abilities or an abstraction such as ‘citizenship’ or ‘character’—when thought of in relation to pupils and the course of study, they must be divided and subdivided in steps or stages of development. To arrive at the desired end, it is apparent that daily, weekly, monthly progress is by small stages. Further analysis will apportion these elements to various levels of development. The pupil who would arrive at the ultimate goals must have proceeded by small steps, through certain experiences, to the mastery of his own abilities, that they may become his adult habits, attitudes, sense of value, and mental possession.

Various suggestions have been made for changes in the subject matter of the curriculum. One wants more literature, another more science, another more arithmetic, another more hand work, etc. Doubtless the needs of the modern citizen are along lines different from those of a generation ago and therefore the content of the readers must change. But it is worthy of consideration, also, in the light of individual differences of pupils, that the chief urgency at present lies in the direction of changes in the administrative enforcement of the curriculum, such that the pupil may secure what he needs, when he needs it.

The definition of the curriculum in terms of pupil activities will inevitably be an enormously complex statement. The pioneer efforts along this line are already beyond the comprehension of the teacher, yet the field is barely glimpsed. But since no one (least of all the teacher) has ever seen a display of the data on processes which now engage her efforts, and since the statements so far made are a bare beginning of such a display, the magnitude of the task is apparent.

The subject matter of the curriculum, to become effective, must dwell in the pupil’s mind in an appropriate setting of motives, incentive, and interest organizations. To follow the course of study,

stated in terms of subject matter without such a setting, is to feed the pupil cold storage meat, and leads to memorization of the subject matter in verbal terms only. To follow the course of study stated in terms of abilities and activities means to vary the quantity of subject matter, to enrich it as needed, to reduce it to bare content when it is of less importance. If we could, by a long stretch of the imagination, conceive of a teacher who alone and on the spur of the moment is able to do this, there might be greater hope of efficacy in the recitation period. It is perhaps more likely that students of the curriculum, and of children, will accumulate large quantities of material to be selected from by the teacher for this purpose.

3. Textbooks Not Adapted to Individual Differences

Recent researches on the content and form of textbooks are illuminating and will undoubtedly continue to point out many changes which may be made in them as source material. The defect that seems to have been most clearly shown in this respect is the constant repetition of the easiest and perhaps least important items. Thus, in certain arithmetics $2+2$ appears many times as frequently as $9+7$. Vocabularies and sentence structures as well as the relative amounts of space given to topics have also come in for study, and need it.

The textbook is too limited in its scope. Readers are so much alike that it is hardly satisfactory to have supplementary readers. Geographies are notoriously uninteresting and uninforming as regards life interests. Adults prefer railroad folders. There is a world of interesting matter to read about, which unfortunately is not considered reading matter. It has been suggested that this difficulty in the textbooks is due to the experience of publishers who have had to insist that the book fit the ideas and tastes of the teachers, rather than those of the pupils.

In the upper grades and high school it is evident that no one book can contain the discussion of topics which it is desirable for the pupil to study. The need for development of methods of comparison requires that he refer to various authors, and other varieties of evidence. Universities, in certain courses, have adopted the source book as a means of directing pupils' attention to various

treatments. And since comparison is the fundamental process in mental activity, the beginnings of reasoning require some such facility for the younger pupil.

For the development of the tool abilities, the bound book is an inconvenience. The pupil who needs more drill or more time for comprehension of a topic requires alternate materials. Books are not prepared as manuals, nor as exercise books, and for all or nearly all children these are needed. It would be a convenience if subject matter were in exercise form, so organized as to call for the certain abilities which it is desired to develop. Alternative exercises of equivalent difficulty or meaning provide the slower or less developed pupil with requisite material for his work.

As with the curriculum, the most significant need in the grades is for a flexible organization to suit the needs of the pupils. If it were possible to use the textbook five minutes in the case of one pupil and five days in the case of another, this need could perhaps be met. But this question, overwhelming without materials for practice exercises and tests of the immediate material by which pupils can check their own mastery and progress, is more than a textbook problem.

4. Teachers Not Adequately Trained to See and Allow for Individual Differences

We must remember that the teaching body varies in amount of experience and amount and type of training and in individual ability almost as much as the student-body. Each year certain teachers without previous experience are added to the staff. Each year other teachers are retired. Some have been trained to methods of 'soft pedagogy.' Others are martinets. Still others fill pupils with inspiration and ambition. Certain teachers are natural discoverers of talent and special ability. It is, however, only in the last generation that teachers have been included in a scientific program, because of the belief that the problems are so numerous, and variations from the program so frequently necessary in order to meet practical situations, that the teacher could only be provided with the tools and technique for discovering her own solutions.

Such a method ignores the fact that experience may be bad as well as good, and that not always does the number of years of a

teacher's career measure correctly her teaching ability. Neither is the young and recently trained teacher always a mild and adaptable person. Experience, even though uninterpreted, or falsely interpreted, is held to be the best teacher, and teacher training on the job is a rarity. Yet there are teachers in every group, some older and some younger, who are eager to learn, even while they work, methods which will make them effective in directing the growing youth. By reading and study, self-directed, it may be that, in the course of time, the majority of teachers may prepare themselves to discover how far the various abilities of a child have developed, to measure the amounts of growth he makes under direction, and ultimately to set up standards for each child, regardless of the standard of the room in which he sits. Experience alone, without some such training, does not mean that a teacher possesses ability to determine the amount of development that has been achieved and to bring about development where it is lacking.

In order that the teacher may be encouraged to progress in this direction, certain changes will be necessary in the organization of her work. As matters now stand, without these changes, she could do little to suit instruction to individual needs, and it is obvious that her efforts in this direction will lack significance unless the determinations can be followed by corrective methods of instruction, or modifications of the work. In California, the issuance of a new type of certificate is being tried as an incentive to such study.

5. Class Size Often so Large as to Make Diagnosis and Help Difficult

When the class size is beyond 35, the amount of attention the teacher can give to any one pupil is relatively slight. Up to this number it has been possible for the trained teacher to conduct an 'individual learning' plan of work. Beyond this number, the lecture method and the story-hour, in which the teacher tells the story, has been found most effective in keeping the pupils quiet but the exercise of abilities—and this the growing youth most needs—cannot be developed by the lecture method.

Pupils differ in the amount of time required of the teacher. Certain pupils, if allowed to work uninterruptedly, will forge ahead at a rapid pace; but other pupils need aid—the more, the less developed their abilities. Each pupil will grow at his own rate, relatively to

his development and effort, if permitted to do so. The present methods of class organization prevent growth along some lines in some of the pupils and turn growth in undesirable directions in others.

Too large classes make concerted or social activity impracticable, while in a small group, activity can be organized so as to bring about the development of teamwork qualities. At present, the playground alone offers this opportunity. But children need to learn to work together efficiently and harmoniously at least as much as they need to learn to play together on fair terms; hence, under present conditions—especially the condition of large classes—the pupils fail to achieve a development, of great social importance, which could be brought about, in smaller classes, by concerted action.

To sum up: The primary consideration in schools heretofore has been ease of administration, not efficiency of instruction. Ease in organizing and managing the course of study, ease in handling and directing the use of textbooks, ease in organization of classrooms, have made possible the administration with equal ease of larger and larger classes. The quality of the citizen who is a product of this maladjustment of the schools depends too largely upon influences outside the school, and is not sufficiently influenced by the school training.

C. EVILS RESULTING FROM MALADJUSTMENT

1. Retardation

The topic of evils is necessarily an unpleasant one, but its discussion may prove valuable if it directs attention to sufferings and inefficiencies which can be corrected by cautious but determined thought and action. It is valuable for the school administrator, since it is through the criticisms of his system that he comes to know the temper of the patrons. The problems of retardation, grade repetition, non-promotion and elimination, clogging of classes, grade skipping and evidences of the variation in quality of work are, in general, criteria by means of which he keeps in touch with his own organization. Figures, tables, and discussions of these matters from the administrative point of view have been numerous and the discussions conservatively conducted. School administrators have become familiar with them. From the standpoint of the

smooth-running machine, they are important enough to merit intensive study.

But from the standpoint of the parent or child who is directly affected, there is another aspect of equal importance. And from the standpoint of public welfare, certain interpretations are to be made which vitally affect the administrator quite apart from his own immediate organization.

The age-grade table, for example, is a method of display of facts of age-retardation. It is objective and accurate. Its interpretation, however, is not easy, and its significance unimportant, since neither ages nor grades touch the point of difficulty—except, perhaps, as to school seats. While it has been facetiously remarked that in certain school systems the only standard for promotion is the size of pupils, and that whenever a pupil is too large for his seat in a grade, he should be promoted, yet in sober fact promotion on account of size is seldom resorted to. However, such statistical studies do make it evident that something over 35 percent of the children are educationally retarded, while another 25 percent are accelerated.

These facts of acceleration and retardation create a number of problems. What shall be the curriculum? What shall be the teacher's aim and goal? What shall be the promotion standard?

The present method of handling a mixed group on the same course of study and with the same method of recitation and presentation retards the bright and accelerates the dull, and the damage thus done to their minds, interests, habits, and attitudes is as yet unmeasurable. If character or citizenship or certain specified abilities or the mastery of a certain subject matter is the goal, approximately 70 percent are securing the worst possible training for that end. It cannot satisfy any conscientious teacher to offer one single 'patent medicine' curriculum to all pupils, whether advanced or retarded, with the expectation that in some mysterious way the mere exposure to the curriculum is going to lead the child into habits and knowledge and power—into citizenship or character. Under present conditions, the brighter 35 percent are forming habits of slack, lackadaisical, superficial attention to work, instead of carrying into the schoolroom the vigorous, determined, joyful experience of the playground, the field or the camp. The dull pupils, at the same time, are forming the habit of letting the other fellow do it if the work is

hard, or if some one else wants to do it. Both are being injured mentally and spiritually in growth of habits and attitudes. For the future application of their efforts, the loss to society is incalculable.

Grade repetition is part of the same problem. The financial loss implied in such repetition has often been pointed out, but the financial loss is a paltry item as compared with the later aggregate loss to the commonwealth through unproductive citizenship. Pupils whom their own teacher would not promote, but who are sent up by the principal to make up another teacher's quota; pupils who were promoted by the teacher, but who were held back by the principal to keep the teacher's quota full; pupils who passed in everything except arithmetic; pupils held back for geography; pupils who are shy and diffident and do not impress the teacher—these types of pupils and others are repeating grades. The situation into which they are projected under the method of one recitation for all the group not only complicates the load of the teacher, but holds forth a dreary prospect for the pupil. Another half-year—or perhaps a whole year—to spend on “the same old stuff!” Not because he needs it, not because anyone has given enough attention to him to discover what he needs, but simply because that is the extent to which administrative machinery in a standardized school takes account of the individual's need.

Habits of failure are real habits. The mental organization becomes emotionalized and shows in hesitations, and lack of self-confidence, or in sullenness or bluffing, depending upon the child's general attitudes and sense of values. The brighter child who is learning to work only at easy tasks and who therefore is failing to lay the foundations which will be required for the interpretation and execution of later tasks; and the dull child whose school life has been one succession of vague guesses in the dark in the hope that the teacher will be pleased and pass him over, and who also has failed to lay the foundations for future work, are both headed toward the habit of failure.

Serious studies of this bad habit have shown that it is not a peculiar property of the dull. Rather it seems to be developed along with the knowledge and technique of work. Burnham has shown that mental hygiene and good education occupy overlapping fields. The habit of failure is bad mental hygiene as well as bad education,

and the evil which has been produced by the present methods of school organization points to the necessity for change.

A large non-promotion record is not, as is sometimes supposed, sufficient evidence that high standards are rigidly adhered to; nor is a low non-promotion record sufficient evidence of low standards. So long as "passing the pupil" is a reward given by a pleased teacher instead of the next step in education as determined by the efforts of the pupil himself there will be a wrong direction of the mental attitudes of both pupil and teacher. It takes from the pupil the responsibility for work to be accomplished and turns his attention to the impression to be made on the teacher. This is particularly true in the high school where the pupils have attained the social values and where to-day at promotion time the teacher is besieged by every device which the ingenious mind of adolescent youth can bring to bear.

2. Large School Mortality

Elimination is another phase of school mortality. Tables of figures have appeared frequently, dealing with the age at which children leave school and give up further effort to secure an education. In all such tables there is an apparent tendency to avoid any admission that the chief cause lies in the determination of the pupil to avoid a distressing and to his mind unprofitable expenditure of time. This cause is concealed and yet revealed by all the figures and discussions. For example, in the lower grades, where voluntary action is at a minimum, there is slight elimination, while in the higher grades, with increase of the pupil's freedom to think and act for himself, there is increased elimination. Doubtless there are some instances of necessary departure from school, and undoubtedly a direct inquiry to the pupil will elicit a statement that departure is necessary. But the true question is: would the necessity be overwhelming if the pupil really wanted to remain in school? There is clear indication that many of those who quit to go to work, voluntarily eliminate themselves, preferring the longer hours and harder work, with freedom and association with men, to the school-room dominated by a personality which hands out favors for work which the pupil cannot see the value of, and under circumstances which breed the sense of inferiority and failure.

3. Clogging of Classes

Mass instruction is said to be clogged when the group contains a certain number of children who do not enter into the interests and activities of the other children, who therefore feel out of place because of the class feeling prevalent among children, and who acquire an antagonism to the group and its activities and to the teacher. The misfit pupil is frequently out of place on account of misbehavior, as well as age and size. He remains in the group on account of the variety of reasons listed elsewhere. The burden and embarrassment to the teacher under these circumstances is often very great. The principal does not like to take visitors to the room. The younger children frequently make a butt of the older ones. But aside from all this, we have to consider that the older children, themselves, held back with the younger children, are presently (as soon as possible in many cases) going out into the economic and social world as citizens. The question is: how will society benefit most by the present expenditure of their time? Are the schools devoting any great amount of time to giving them the kind of experience and training which will develop to the maximum the abilities they have? What is the most profitable disposal of their time?

The ungraded room, the special class, the "Z" curriculum, are attempts to give to such pupils a real opportunity at the same type of work as is offered to the brighter or young child who is later to go to college. The development of the abilities which the over-age pupil will use, the development of a sense of values for the homely virtues he should practise, the development of the sense of social and civic values with reference to which his vote carries as much weight as that of the merchant prince—are these encouraged by the above devices? It is a question of importance, since it has to do with from 7 percent to 12 percent of the school population. Moreover, this is the group from which repeaters are most frequently drawn, and who thus cause a considerable extra expense.

4. Grade Skipping

Recognition of the needs of a bright and attractive child results occasionally in the extra promotion, causing him to skip that portion of the work assigned to the rest of his class and to miss the beginning work of the next class in order to get one year, or one

grade, ahead of his present status. That he will miss a good deal is obvious, but in general it is felt that what he loses is less than what he gains in stimulus and in the feeling of satisfaction. If the curriculum were scaled in all subjects, and if the pupil's abilities were known to correspond to the amount of skipping, then this might be the correct procedure, facilitating the development of the bright child's abilities.

But this extra promotion is not at present a very common occurrence. Several causes contribute to make it unpopular. There is the trouble of giving adequate reasons for the break in the regular routine, so as to satisfy principal and parent. Moreover, many teachers fail to recognize the superbright child, owing to their habit of thinking of all children as average children; furthermore, every teacher desires earnestly to retain the bright pupils of the room. So much so, that when pressure is brought to bear by parent or by principal, the teacher sometimes argues against losing such children to the teacher of the next higher grade. All these circumstances combine to make the extra promotion at present a comparatively uncommon occurrence.

Leaders of the new movement in education propose to effect, by means of measurements, a considerable increase in the number of such promotions. I believe that not sufficient regard is given to the wide range of abilities which should be exercised in each grade level, and to the wider study of the individual who is to be given the promotion. On the theory just now prevalent that the child who possesses a large amount of one ability, will also possess similar amounts of all other abilities, the only remaining problem would certainly be the determination of the amounts of ability required in the advanced grade. But until more study has been given in the psychographic field to the range of abilities possessed by the child, and until more definite information has been gained regarding the specific abilities which each grade is to develop, it is my conviction that grade skipping is deleterious. For we must remember that the hierarchy of abilities which is forming and becoming facile under the control of familiar situations is the child's most valuable possession. Individuality and general ability are both in the making, and the continuous processes of growth and organization of mind are the result of the situations through which the child is succes-

sively passing. Satisfactory development, then, demands continuity during the earlier stages—continuity, not skipping.

5. Variations in Quality of Work

The apperceptions and appreciations; the habits and attitudes; the criteria of logical, esthetic, and ethical values which are proceeding by stages of growth toward an adult status, are subject to great variations. They show not merely in the speed and accuracy with which routine processes are performed, but also in quality of work. This is dependent on the interest organization, on the feeling of growth and improvement, on the sense of personal importance in the acquisition of new knowledge, and on the forward look toward the time when more significant responsibilities will be carried. The will to learn, the will to exercise ingenuity and initiative, the will to measure up, all inevitably lead to breaking away from a set program. This freedom to grow is far too limited under the repressions of group quiescence where the teacher holds the center of the stage, dictates methods, and determines solutions. In a scientifically organized school system, on the contrary, every process would be carefully designed to encourage this very freedom and range of growth.

To sum up: The more carefully the processes and goals of education are analyzed and made clear, the more the fact appears that individual differences are unavoidable and invaluable. By means of them the public schools should be able to keep up a wholesome supply of the many kinds of persons needed to carry on the complex work of civilization, all of these different individuals with trained abilities in a state of healthy and buoyant readiness to perform their appropriate tasks.

D. CONCLUSION

The extent of the individual differences among children is just beginning to be realized. They are due in some degree to inheritance and are magnified by differences in experience. The differences are enormously complex. In our schools they make any form of mass instruction inadequate to meet the varying needs and abilities of the children. Children need differing amounts of time and of drill, and different children need different methods.

Schools heretofore have to a large extent ignored these differ-

ences, in an attempt to get simple, uniform organization, courses of study, and textbooks. The schools have therefore failed to exert the influence that they should toward developing good citizenship.

This failure manifests itself in certain bad habits fixed upon the children. These habits include the habit of failure, the habit of half-done work, the habit of work below one's full powers, the habit of shirking. Furthermore, in the economic waste of re-educating repeaters, of holding out of productive activities for one or more years those children whose time is wasted by maladjustment, and in turning out half-educated, those children whose failure has discouraged them from further education effort, the school system itself is displaying not only inefficiency, but bad citizenship.

Individual differences among children, while disturbing to a system of education which tries to ignore them, are potentially the means by which human society may progress.

SECTION II

TYPICAL ATTEMPTS TO ADJUST SCHOOLS TO INDIVIDUAL DIFFERENCES

The individual differences existing among children and the failure of the traditional class method of instruction to make adequate provision for them have been recognized to a greater or less degree for many years. With the spread of the measuring movement, however, the differences have become more obvious and the consequent attempts to adjust the schools to individuals have become more numerous.

These attempts fall under two main heads: (A) attempts to adjust the schools to individual differences while retaining much of the class system organization and method, and (B) attempts involving the definite breaking up of the class organization for individual work in the common essentials.

Typical experiments along both lines are described in this section. We have not tried at all to cover every experiment, but the important types of experiments are outlined as exemplified in various schools and systems.

A. ADJUSTING TO INDIVIDUAL DIFFERENCES WHILE
RETAINING THE ORGANIZATION AND THE
METHOD OF THE CLASS SYSTEM

I. COACHING LAGGARDS

Even before the days of accurate measurement in education, it was obvious that the schools were failing to adapt themselves to some individuals. These children could not keep pace with the rest of the class—they lagged behind, became discipline problems, clogged classes by repeating grades and were stigmatized as failures. To help these children, John Kennedy, for many years superintendent of schools in Batavia, New York, developed a form of individual instruction about three decades ago. Essentially his plan was a method of coaching and encouraging the laggards; of keeping them up with the rest of the class. An extra teacher was usually assigned to this duty, in each room, the regular class teacher being able, in consequence, to handle large classes.

A modern adaptation of this Batavia Plan is in successful operation at Mt. Vernon, New York. The superintendent there, William H. Holmes, believes in keeping the class organization intact, as John Kennedy used to do at Batavia; and like Kennedy, he provides for the coaching and encouraging of the laggards—not by an extra teacher in each room, however, but by providing an hour each day for individual help by the classroom teacher, and by assigning one or more special teachers in each school to help the laggards who need more help than their own teachers can give them. But let him tell his own story.

AN EXAMPLE FROM MOUNT VERNON, NEW YORK

By WILLIAM H. HOLMES

Superintendent of Schools

The inspiration for the individualized instruction done in the Mount Vernon schools came through the work of Mr. John Kennedy, former superintendent of schools in Batavia, who was the first educator in the United States to recognize the real need of individualizing school work. He is really the pioneer in emphasizing the im-

portance of diagnosing the needs of the individual pupil.¹ As time goes on, his name will stand out more and more as one of the real discoverers in education.

It is generally admitted that schools become vital only as they become human, and they become human only as they tend to individualize the unit personalities composing them. This process of individualization is, moreover, a socializing and co-operative process in which the teacher and the needy child work together in order that in the end the child may better fill his place, first in the school and later in society at large.

The time schedule of the elementary schools of Mount Vernon allows an hour a day in each grade for individualized work, during which time the teacher who has learned how to individualize her teaching may meet and work with children as individuals while the other members of the class are engaged upon profitable class work. Many of the teachers in our schools have learned to use this time to excellent advantage. There are, however, some teachers who for various reasons fail to make good use of this important period. It has been found best, however, not to be over-insistent on the strict use of the individual time on the program of each teacher, for before a teacher can do the right kind of individualized teaching she must believe in it and truly enter into its spirit. In securing the best results in this kind of teaching, the spirit in which the work is done counts more toward success than any other single element. The patience, sympathy, and optimism which constitute the fundamental elements of the spirit of individualized teaching are developed only after the teacher sees the real importance of reaching individual children and has experienced the joy of leading some needy boy or girl from darkness into light.

We have found from experience that it pays to be patient with teachers who have not quickly learned to use the individual periods particularly well, for in many cases, after a longer or shorter time, such teachers have come to see the really great importance of indi-

¹ Without intending to disparage the contribution of Supt. Kennedy, it may be pointed out that systematic plans for injecting flexibility into the stock grade system had been set forth by Dr. W. T. Harris as early as 1868, and W. J. Shearer, in 1866, and others not long after, had contrived various plans to favor the progress of individual pupils. See the *Twenty-Third Yearbook*.—EDITOR.

individualized teaching and have come to know how to use the individual time to excellent advantage. To have insisted on having individual work done before the teacher was ready to do it well would have almost certainly resulted in having it done mechanically and without the proper spirit. Furthermore, it would be too much to expect that all teachers, schooled as teachers are in our normal schools and schools of education to look upon teaching largely as a mass process, would quickly see the value of the individualized process of teaching. Some very good class teachers are apparently so constituted that they are not happy in teaching children as individuals. They seem to need a group of children to inspire them. The great majority of teachers, however, while oftentimes slow to grasp the real significance of teaching individuals, come finally to see its true value and learn how to do the work well.

While no specific time has been assigned for individual instruction in the high-school program, high-school teachers have been urged to catch the spirit and master the technique of individualized instruction, and many of the high-school teachers in Mount Vernon are using individualized instruction to the great advantage of their pupils. The high school should be the most fertile field for individualized teaching. The individual adviser at the high school does a large amount of work with individual boys and girls, and it is hoped that through his diagnostic work he will be able to bring to many of the other teachers in the high school the importance of adjusting many pupils to their work in the school through individualized teaching.

In order to do successful individualized work two things are essential: the right spirit and the right method.

The Right Spirit

The right spirit is the motive power that sends the teacher along the way of right method to victory over slow and retarded minds. The essentials of the right spirit are: cheerfulness, sympathy, patience.

A smile on the part of the teacher and a word of approval if the pupil succeeds, and a smile and a word of encouragement if he fails; these things are necessary. An atmosphere of *cheerfulness* must pervade the room if individualized instruction is to succeed.

There must be *sympathy* on the part of the teacher. Sympathy enables the teacher to put herself in the place of the pupil. It sees difficulties as the pupil sees them. It is the power that enables the adult to be a child again and the teacher to assume as many different individualities as she has children under her.

Patience is necessary. For days, weeks, and months sometimes a teacher may work with some backward child with no apparent results in the way of improvement. But patience in the end is sure to win, even though the results be small, comparatively. However, for the child who achieves even a little, the victory is usually a great one.

Patience, sympathy, and cheerfulness are essential to the right spirit in giving individualized instruction. Without the spirit which they engender, no teacher can succeed with individual children in large measure.

The Right Method

The right spirit of work must take the right direction or follow the right method with reference to both individual work and class work.

In the preceding paragraphs the aim has been to show that by creating the right atmosphere in the room and the right attitude in herself, the teacher must seek to win the pupil's heart, and through his heart lead him to exert his will; for it is weakness of will rather than weakness of intellect that is the cause of the slow progress of the great majority of backward children. This leads us to the steps in the "Right Method" of individualized instruction.

1. *The pupil is called to the desk.* The teacher calls the pupil needing assistance to her side at the desk.

2. *The teacher works to remove the most elementary difficulty.* In a low voice and with perhaps a pleasant word of encouragement or suggestion the teacher directs the mind of the pupil to the difficulty that is retarding him. This difficulty may be the result of failure to grasp some point that should have been grasped years before. On this point, however far away it may be from the regular class work, the teacher must focus the mind of the child and her powers of teaching. Until these fundamental points are mastered, there can be no true progress. Under the all-class method the teacher rarely

if ever finds out the difficulties that are retarding individual children.

3. *The pupil is made self-helpful.* The teacher leads the pupil to master the difficulties himself, both by not telling him anything that by judicious questioning he can be led to discover for himself, and by not doing the pupil's work for him. The fundamental principle of education is self-activity; the teacher's function is to find out just what the pupil knows and, with this knowledge as a basis, to lead him to see his way and to do the work himself.

4. *It teaches pupils how to study.* Individualized instruction furnishes an opportunity to teach pupils how to study. Many pupils fall behind their classes because they have never been taught to see the difference between the important and the unimportant. Through proper individualized instruction, they can be trained or led to master the printed page.

5. *Individualized instruction should be wholly individual.* Individualized work should be done with one pupil at a time. Group instruction will never enable a teacher to get close to the heart of the child and lead him to reveal himself. Timidity has caused many a pupil to fail. The encouragement and aid that come through individual instruction will make many a timid pupil self-reliant.

6. *The teacher finds the pupils who need individual aid.* During the class recitations the teacher should make note of pupils who seem to fail because they do not understand certain points. At the next individual period, these pupils should be called to the desk for consultation and help. By examinations of the daily written work and of the tests that may be given from time to time, the teacher will be able to find the weak spots that must be strengthened through individualized work. The teacher is to be the judge of who needs aid. She is not to wait for the pupils to ask for aid.

7. *Record of work.* The name of each pupil who receives aid should be recorded in a record book. Such a record will keep the teacher on the right track and will enable her to recall the steps by which she led a retarded mind from darkness into light.

8. *Class work.* During the individual period, the class is engaged upon profitable study work. Individualized instruction offers an opportunity to have real supervised study. The teacher, having given proper directions to the children of the class regarding how to

study, sees during the individual period, that they do study and in case anyone at his own desk seems to need help she can call him to her side at the front of the room and there, in the presence of the class and yet apart from the class, help him with his problem. The teacher also from time to time, when the individual period is from one-half to three-quarters of an hour long, may go around the room to see just what the pupils are doing at their seats.

Special Individualized Work

In addition to the work done by the classroom teacher, there are, in the high school and in all the elementary schools of the city, one or more special individual teachers who do nothing but work with needy pupils, from the several classrooms of the building, whose cases require too extended attention for the classroom teacher to give them the time that they need during the regular school hours.

At the beginning of the year, these teachers work with pupils who have been given what are called "double promotions," in order that they may be adjusted speedily to the grade of work to which they have been promoted. This requires from one or two, up to fifteen or twenty, individual session periods of one-half hour each. During the remainder of the year, these teachers are concerned with cases of children who are out of adjustment because of absence, late entrance, or slow mentality.

One of these special individual teachers works only with pupils who do not know the English language. Such pupils are placed in classes with other pupils of equivalent age, going to the individual teacher for periods of a half hour to an hour each day until they have learned to speak English. The progress of some of these pupils has been remarkable.

What Teachers Think of Individualized Instruction

The following quotations are chosen at random from among many:

"It has given me a better chance to study the individual and to do away with the strained relationship sometimes existing between the pupils and their teachers."

"It helps eliminate the after-school session, creates self-reliance for the timid, and establishes general benefits for all."

"Individual contact with the child opens up better understanding between teacher and pupil, removing shyness on the part of the pupil, giving him confidence in himself during recitation, because he knows that the teacher has a personal interest in him."

One of the new teachers writes: "The time devoted to individual instruction is a credit to this school system. The teacher makes a study of the child and in clearing up his difficulties, leaves him happy and able to work independently."

"The majority of the pupils of my class have voted that individual help periods have made them better students than they otherwise would have been."

"Pupils' conduct improves as they feel friendliness toward the teacher."

"I am able to show children how to study—how to use their books, how to use the appendix, index, etc. I am able to point out to them ways of logical reasoning."

"Great aid to the foreign-speaking children in teaching them English."

"Helps the bright child who is often 'born short' in certain subjects."

"At the beginning of the term, I thought some of our children were helpless in spelling. Through individual help periods, I was able to overcome this difficulty."

"Has been most valuable in improving written composition with the slow pupils."

"My children seem so happy that they are working and accomplishing correct results, which is made possible through individual instruction."

"A splendid opportunity to help the individual that enters late."

Results of the Work

While we have kept no accurate record of the results of individualized instruction, we are convinced that hundreds of pupils each year are able to win success and happiness in school work who, under the ordinary school procedure, would have won only a failure and discouragement.

II. ALLOWING EXTRA TIME FOR LAGGARDS

The Gary Schools, through their platoon organization, have made it possible for children who are slow in any particular subject to increase the time spent on that subject, at the expense of some of their play or shop or assembly activities, or through summer or Saturday work. This is briefly explained by Superintendent Wirt.

SOME FEATURES OF TIME DISTRIBUTION AT GARY, INDIANA

By WILLIAM WIRT

Superintendent of Schools, Gary, Ind.

Children in the schools of Gary, Indiana, are grouped into rapid, average, and slow working classes. This is possible because there are so many classes in each building owing, first, to the practice of having half of the class group reciting while the other half is studying, and second, to the Gary school organization, which increases the capacity of the building approximately 70 percent.

The school classroom day is 420 minutes long, with half the classes in academic work while the other half are in special work. It is possible to substitute a period of academic work for a play period or an auditorium period and thus give more time to a subject or part of a subject. For example, a student in percentage may be given an extra period daily for percentage or a review of common and decimal fractions.

All schools are open Saturday for individual instruction and pupils can elect the work they wish to do. Thus, a child can work three hours Saturday morning in one or several subjects with a teacher in charge for guiding the individual work of the children, but not for holding recitations. Seventy-five percent of the children attend Saturday school and 80 percent of these elect academic studies.

Eighty percent of the children attend summer school for eight weeks and make individual adjustments during this time.

As a rule, classes are not more than ten weeks apart. In many cases, with the help of the Saturday school and extra time in arith-

metic, pupils can advance, at any time of the year, to a higher class group.

I do not consider any of the devices mentioned above as satisfactory, because all merely help to keep the children progressing uniformly in rapid, average, or slow working groups. We do not secure individual instruction and progress except in Saturday schools and here it merely helps to keep the child in harmony with his class group.

Each year the size of the groups is reduced by increasing their number, but Gary is a long way from the one-pupil group.

III. THE INTENSIVE STUDY OF PROBLEM CASES

A scientific variant of the coaching of laggards or the giving extra time to slow pupils, is the intensive study of individuals who meet unusual difficulties, followed by appropriate remedial work. Indeed, this is needed under any plan of individual work, as no system can take care of the real problem cases without scientific diagnosis through intensive personal study. The University of Chicago has occupied a leading position in such individual studies. Dean Gray of that institution illustrates this procedure in the following contribution.

AN ILLUSTRATION FROM THE UNIVERSITY OF CHICAGO

By WILLIAM S. GRAY

Dean of the College of Education, University of Chicago

One of the most recently developed methods of providing for individual needs is to make intensive studies of pupils who encounter unusual difficulty and to take the necessary corrective steps or to provide appropriate remedial instruction. One example follows, taken from the field of reading:

A third-grade boy was unable to make any score on the Gray Oral Reading Test. Since he was suspected of being feeble-minded, he was given the Binet test. This test showed him to be normal mentally, and accordingly, further effort was made to find the cause of his poor reading. His eyes were tested with the letter chart and seemed normal. When questioned, however, he reported that the letters looked as if "someone had put a wet blotter on the book" and blurred them. His eyes were treated and fitted with glasses, and at the close of one year he scored 39 on the Gray Oral Reading Test.²

The case which has been described is an excellent example of the fact that many pupils encounter serious personal handicaps which can be discovered only through detailed and somewhat technical studies of their difficulties. Other examples could be given which

² William S. Gray, *Remedial Cases in Reading: Their Diagnosis and Treatment*. Supplementary Educational Monographs, No. 22, p. 15. Chicago: Department of Education, The University of Chicago.

show that many pupils fail for reasons which could be corrected through appropriate instruction. For example, the following causes of difficulty or failure in comprehension in reading were discovered through the intensive study of a number of cases: little or no training in habits of intelligent interpretation; failure to direct attention to the content while reading; an inadequate background of experience; an over-active imagination which resulted in reading into passages things that were not there; lack of interest in reading; inattention; ineffective application. When regular classroom instruction was supplemented for a time by carefully selected practice exercises, most of the pupils in question overcame their difficulties and were able to continue their work more nearly on a basis of equality with the other members of their class.

The statements which have been made concerning failure in reading apply to practically all subjects of the curriculum. There are thousands of boys and girls in school each year who make little or no progress because of inaccuracies and personal handicaps which could be eliminated. These difficulties result in discouragement, retardation, and elimination in far too many cases. "Society recognizes clearly that children differ widely in native endowment and learning capacity; it insists, however, that schools utilize every means possible to provide the most effective instruction for each child." This means that regular class work must be supplemented by systematic detailed studies of the difficulties of each child and that appropriate remedial instruction must be provided.

Only a few examples of such work in school systems can be described here because of the limitations of space. Superintendent C. J. Anderson and Miss Elda Merton³ have reported a number of intensive studies of reading made at Stoughton, Wisconsin. The initial diagnoses were made through the use of standardized tests. Supplementary information was secured from a study of a child's physical record, home environment, nativity, nurse's report, and records in other studies. When the needs of given pupils were determined, individual help was provided in which the teacher varied the amount and character of the work according to the particular needs of the pupils.

³ C. J. Anderson and Elda Merton. "Remedial work in reading." *Elem. Sch. Jour.*, 20 (May-June, 1920), 685-701; 772-791.

Detailed studies in arithmetic, similar to those described in reading, have been made by Uhl⁴. The method employed in these studies was to take to a quiet part of a building, pupils who were failing in the fundamental processes and to make an assignment from the Courtis Practice exercises. As a pupil reported the answers, the teacher directed attention to his methods of work. Many interesting facts were discovered which explained the causes of difficulty and suggested appropriate remedial measures. For example, it was found that some pupils 'broke up' the larger digits in making such combinations as $9+7+5$; others employed laborious methods in subtracting and dividing which showed resourcefulness, but which greatly retarded the speed of work.

The value of detailed studies of the types which have been described has been definitely established. The fact is generally admitted that such studies should supplement the regular work of the classroom. One advantage which attaches to this procedure is that appropriate individual help can be given without modifying class organizations. A second, and even greater advantage, is that it usually leads to a clearer insight on the part of the teacher into the specific teaching problems involved.

⁴ W. L. Uhl. "The use of standardized materials in arithmetic for diagnosing pupils' methods of work." *Elem. Sch. Jour.*, 18 (November 1917), 215-218.

IV. ABILITY-GROUPING

Among the early attempts to adjust schools to individual differences were several plans for dividing classes into ability-groups. Sometimes the groups that were brightest were allowed to complete their school course in a shorter time, as at New Cambridge, North Denver, and Portland, Oregon. In other places, *e. g.*, Santa Barbara the children all remained in school for the same length of time, but the brighter children had an especially enriched curriculum and the slow ones a curriculum of the bare minimal essentials.

Ability-grouping has recently come into strong favor with many people. Intelligence tests and achievement tests, usually checked by teachers' judgments, have been used to determine the group in which each child belongs. The instruction in each group has then presumably been modified to fit the type of children composing it.

Two modern ability-grouping plans are described below. The one at Detroit is the best known in the country. The one in Los Angeles while not so extensive, is significant for its success in bringing half of the slow group up to normal in a surprisingly short time.

1. ABILITY-GROUPING IN DETROIT SCHOOLS

BY STUART A. COURTIS

Detroit Teachers College

Detroit has had special classes for atypical children for nearly fifteen years, and under the care of Professor C. Scott Berry, of the University of Michigan and Director of Special Education in the Detroit schools, an administrative department has been gradually developed to deal with the special problems involved. In the department, the operating agency for the study and classification of individual children is the Psychological Clinic. All the mental testing work of the city is carried on under the direction of this Clinic.

With the development of group tests and the growing emphasis upon individual differences, a demand arose for experimental trial of the plan of sectioning on the basis of ability. After suitable preliminary experimentation, the Department met this demand in

September, 1920, by giving the Detroit First-Grade Group Intelligence Test to all children entering the lowest (B1st) grade, about 10,000 in all⁵. On the basis of the scores obtained these children were divided in 'X, Y, Z' groups. The average or normal children, comprising the middle 60 percent of the children in any grade, constitute the 'Y' group. The superior 20 percent and the inferior 20 percent of the children constitute the 'X' and the 'Z' groups, respectively.

In schools where the numbers of children in the different groups warranted it, classes were organized wholly of X, Y, or Z children; in smaller schools class organizations often contain two groups, as X and Y, or Y and Z, depending on the intelligence level of the neighborhood. In the smallest schools the most that could be done was to section into three groups within the class organization for recitation purposes.

From the outset it was realized that no classification by tests could be absolute. Teachers and principals were privileged to change children from one division to another in accordance with their actual success in school work during the first two years. The position of any child in a group, after the very first grouping, is thus determined both by the results of the mental tests and by the teacher's judgment. Actually, it has been found necessary to change the placement of less than 40 percent of the children.

The X—Y—Z plan contemplates a differentiated course of study; the regular course for the Y's, an enriched course for the X's, and a simplified course of minimal essentials for the Z's covering exactly the same ground. Experience has shown that mere change in amount of ground covered is not enough, that the rates of development of the pupils in the different groups vary. For instance, the B4th Z's reach a stage of development in the fourth year of work in reading which is attained by the A2nd X's. Further, there appears to be need for differentiation of teaching methods as well as for differentiated courses of study.

The practice begun in 1920 has been continued ever since. To-day the X—Y—Z classification is in effect through the B5th grade and involves some 80,000 children. Intelligence testing and sectioning

⁵ An account of this work was given by W. K. Layton in the *Twenty-first Yearbook*, Part II.—EDITOR.

on the basis of ability has spread to the intermediate, high schools, and colleges, until to-day the intelligence factor is given consideration in sectioning throughout the system. The degree to which the Clinic is called upon to assist teachers and principals in their attempts to adjust work to the needs of individual children is shown significantly by the data in the following table.

INTELLIGENCE TESTS GIVEN BY OR UNDER THE DIRECTION OF THE
PSYCHOLOGICAL CLINIC DURING THE SCHOOL YEAR, 1923-1924

SCHOOL DEPARTMENT	TESTS USED	NUMBER
Kindergarten	Group	387
	Individual*	64
Elementary	Group	59,908
	Individual	3,857
Intermediate	Group	17,531
	Individual	179
High	Group	8,498
	Individual	4
College	Group	416
	Individual	0
Special and miscellaneous	Group	3,421
	Individual	942
Total Group		90,161
Total Individual		5,046
Grand Total		95,207

*Binet, Pintner-Patterson, etc.

The educative effect of the tests and studies of the Special Education Department upon the attitude of the teaching corps toward individual differences and the adjustment of school work to individual needs is very far reaching. The Departments of Instruction and Administration have not been able to keep pace with the demands made upon them, particularly in supplying satisfactory differentiated courses of study and practical standards of promotion. To-day, constructive experimental adjustments are under way throughout the system.

Evaluation of the effect of sectioning on the basis of ability has been difficult because of the number of factors influencing test results. Careful experimentation has yielded conflicting data. But in

the informal and more inclusive judgments made by principals and teachers on the basis of experience, the trend of opinion is decisive. Sectioning on the basis of ability increases both the efficiency, and the pleasures of teaching, and is a valuable addition to our grading system because it makes possible a closer adjustment of group work to children's needs.

2. ABILITY-GROUPING IN LOS ANGELES

By A. H. SUTHERLAND

About 22,000 pupils in the elementary schools of Los Angeles were given group tests consisting of the National Intelligence Test, Thorndike-McCall Reading Test, Woody-McCall Mixed Fundamentals, and a modified form of the Ayres Spelling Test. On the basis of figures so obtained, following McCall, pupils were divided into X, Y, and Z sections. Unfortunately, there were no adequate modifications of the curriculum available with which to follow up the segregations of pupils. The research department was then called upon to apply the methods and materials of the adjustment rooms in order to determine whether the Z groups would profit by their use. The following questions were asked:

1. Would adjustment work materially improve the educational status of the Z-group pupils?
2. How much time would be required to organize a group and train its teacher to carry on the work alone?
3. Would it be possible for the average school counselor to do the necessary analytical testing, organizing, and training?
4. What part of the educational retardation is probably due to wrong education?

After a six weeks' period of two hours' instruction per day, the educational retardation of the Z groups (two) was reduced 32 percent. Among those children retarded three terms or more, the retardation was reduced 55 percent.

It required two hours per day for fifteen consecutive days to give the process placement tests, to organize the groups, to train the teachers and pupils in independent procedure, and to train a teacher

so that she would be able to organize and train another group and its teacher.

The work can be done by any counselor who has had the necessary experience as an adjustment room teacher and who can have the time free two hours a day for fifteen consecutive days.

It was impossible to answer the fourth question at this time since the pupils had not reached a 'saturation point' in the development of their mastery of processes. Most of the children had previously had the benefit of a school which is probably above the average of our city schools. The rapidity of progress of the Z pupils was such as to warrant the opinion that the retardation was due chiefly to wrong education and its resulting psychological complexes (largely emotional in nature). At the end of six weeks 51 percent remained Z pupils of the 4th grade; the remaining 49 percent had become X and Y pupils. ff

V. DIFFERENTIATED ASSIGNMENTS

Even without ability-grouping it is possible to provide an enriched curriculum for the brighter pupils. This is usually accomplished through a plan of differentiated assignments. The plan may be used in a variety of ways. A student may be given additional credits for doing work beyond the minimal requirements. Or he may have to do some such additional work to get high marks. Or the additional assignments may be made so interesting that he wants to do them of his own volition. Or he may merely be prodded a little to use his surplus time (if he has any) in the doing of extra work in the topic he has completed.

Differentiated assignments are exemplified in two university high schools—the one at the University of Chicago and that at the University of Wisconsin.

1. DIFFERENTIATED REQUIREMENTS IN THE UNIVERSITY OF CHICAGO HIGH SCHOOL

By W. C. REAVIS

University of Chicago High School

The desirability of individualizing instruction is no longer questioned by anyone. The objections to it are concerned chiefly with the applications of the theory to classroom conditions. The question most frequently asked is, How can one instruct children *en masse* and at the same time individualize?

Among the many partial solutions offered to the problem is that of differentiated requirements, or the practice of varying the amount of work to be accomplished in accordance with the ability of the individual pupils of a group. While differentiating the requirements makes possible a high degree of individualization, its successful administration in the classroom presupposes on the part of the teacher (1) knowledge of the educational status of his pupils as individuals, (2) organization of the materials of instruction so as to permit flexible assignments, and (3) the adoption of a technique of instruction which will enable the teacher to use a large share of his teaching time in directing work rather than hearing lessons.

An attempt has been made in some high schools to encourage capacity work through the awarding of weighted credit for quality or quantity of results. The experiment as a whole has proved disappointing as a constructive solution to the problem of differentiating requirements. It places too much responsibility on the individual pupil for results; it discourages the conscientious slow pupil; and as a penalty or a reward it has proved to be an insufficient stimulus to the pupil of superior powers.

The University High School has encouraged each department to develop an effective technique for differentiating requirements in accordance with its own objectives, particular psychology, and types of teaching technique. As a reward for capacity work of a meritorious sort or as a disapproval for failure to work up to known capacity, descriptive reports are sent to the administrative office for record and then to the parents setting forth the character of the individual's achievement at the time the task is completed.

In language-arts study, in which power in reading is the objective sought, individuals acquire control of the reading adaptation at very different rates, even in groups that are relatively homogeneous in general intelligence. The leading factors which operate in determining the rate of accomplishment are special ability or disability, earnestness of purpose, reaction time, and temperament. Definite amounts of work are laid out for the class as a whole to cover thoroughly within a definite time. Pupils who acquire control over the material required sooner than others are advised to do additional reading from material suggested by the instructor. No additional credit is allowed for additional work, but commendation is given on the basis of the interest displayed and the intellectual independence developed. Pupils who progress more slowly than the majority of the class are advised to report to the after-school remedial class for assistance if further help is needed in the mastery of the minimal requirement.

The materials of instruction in content subjects such as science and the social studies are organized for teaching purposes into large units, or blocks, which require on the average three or four weeks of study. After the pupils are acquainted with the purpose and the scope of a unit, guide sheets are provided which give the minimal essentials in outline form and the text and reference material to be

studied. Supplementary projects for investigation and study are also listed.

The classroom then becomes a workshop in which the instructor is the director. Individual differences soon assert themselves, for pupils assimilate content material at very different rates. Students who acquire an understanding of the essentials rapidly and master their materials without re-teaching and repeating work may complete a unit several days in advance of the majority of the class. Such students undertake supplementary projects from the list provided or of their own selection. The project is usually determined by the intellectual interests which the pupil has developed in his study of the unit. Worthy projects receive commendation, and if in proper written form, may be accessioned and placed in the school library. Unsatisfactory work, on the other hand, must be re-worked until it is in acceptable form. Students who work slowly, and as a result require more time than the average to complete essentials, can report to their instructors for direction and assistance during the after-school periods.

In the department of mathematics the exercises to be done in class are grouped in pedagogical units as assimilative material which embodies the principles or processes to be learned. After teaching a process thoroughly, the pupils are set to work independently by the teacher, and are permitted to advance as individuals to the next point which requires teaching. The superior pupil who is inclined to race over material without acquiring real understanding is required to cover more assimilative material than is the slow deliberate worker who puts more time on details, asks more questions, and as a result obtains a more thorough understanding of the process involved.

The individuals as a group are taught together only when new principles or processes are developed and when common difficulties are encountered. Between such points individuals advance at their own rate, and the instructor assigns to each the amount of assimilative material which in his judgment is needed to insure the understanding desired. The instructor accepts responsibility for the proper and profitable use of the individual pupil's classroom hour. No home assignments are given, but pupils may be asked to come after school for remedial instruction or to re-work material which was done in poor form during the regular class period.

In the manual arts department instruction is highly individualized. The work of the first course in mechanical drawing, for example, is organized in 14 units. All students are required to take the first ten units. All are required to elect two of the last four units. Students of superior ability are required to take the 14 units, after which they may undertake units in the advanced course and receive credit for the amount of work satisfactorily completed. No attempt is made to hold individuals together for class instruction. Individuals advance from unit to unit, but no one is allowed to begin a new unit until the one on which he is engaged is satisfactorily completed.

The foregoing report of differentiated requirements in four departments of the University High School describes in brief an attempt to put the individual in competition with himself rather than with other individuals. When properly administered, the plan encourages application and tends to develop in the individual a sense of responsibility for carrying on at full capacity whatever he undertakes.

2. DIFFERENTIATED ASSIGNMENTS IN THE WISCONSIN HIGH SCHOOL

BY H. L. MILLER AND S. A. LEONARD

University of Wisconsin and Wisconsin High School

The fundamental idea of the experiment in fitting courses of study to individual differences and capacity at the Wisconsin High School was first presented in an article by Professor Miller and Miss Johnson in 1922.⁶ The distinctive development has been the building of assignments on various levels of integrating difficulty. This work developed through a vital modification of 're-citation' and emphasis on the idea of mastery of something. First of all in such a scheme are the 'common essentials' in the work of each subject—as sentence recognition and the spelling of a core-vocabulary in English. There must be provision for variety and adequacy of practice to provide for over-learning of these—that is, formation of habits

⁶ Miller, H. L. and Johnson, Dorothy. "Directing study for mastery." *The School Review*, 30, No. 10, December, 1922, pp. 777-786.

which are reasonably sure to be retained because the pupil has gone beyond the point of first success and has a margin of mastery.

Mastery, indeed, is the key-note of this procedure, yet a new polarity is sought in initiative, co-operativeness, and creative mastery; attitude and the companionship of the intellectual life are not disregarded. Much of the time saved from formal recitation, for instance, is used in oral reading of literature by teachers or pupils, in free and informal dramatization, in discussion of common experiences in science or history class, and in other community projects. Moreover, the class meets as a unit; hence, when a difficulty met by any one will probably illuminate the problems of others, the teacher calls a group or all the class together, and the problem is worked out. Pupils who have mastered a unit of work are constantly encouraged to turn back and help slower workers. They learn to do this not by telling answers, but by asking questions which lead to solutions, for all know that a mastery which can meet fair and searching tests is the only goal.

A suggestion on mastery is included in the illustrations a little further on.

The natural first mistake in the building of any program of so-called essentials is to pile on far too much. This must be guarded in a properly built system in two ways: First, by requiring full mastery item by item, of 'principles,' it is possible to fit the scheme to the capacity of "the slowest normal diligent pupil," in Dr. Burk's phrase. Second, it is wise to set no arbitrary time-limit, but to revise the minimal requirements on the basis of repeated experiment. Thus, at the end of a grading period of the English job sheet printed below, it was found that three-fourths of the sophomore English class had done six of the nine compositions assigned and that all had done the tested reading and the self-checking form drills. For the purpose of stimulating more diligence, and not as any positive final mark, the slowest fourth of the pupils were given a grade of N. M. (no mastery yet). The job sheet was thus found to be nearly fifty percent too long for the period it had originally been designed for. Most teachers as a first experiment will tend to make the minimal contracts three or four times too long for real mastery.

But covering the basic, or core, assignment means only a passing grade, or a 'fair.' In order to secure marks of 'good' or 'excellent,'

the student must go beyond this unit and do, also with a grade of mastery, additional work of related and significant value. The temptation here is undoubtedly for the teacher to add arbitrarily assignments of dubious value. It is necessary to remember always that, while there are without doubt valuable extra jobs to be done in every subject, pupils should by all means be allowed to specialize in the lines of their interest and talent, and that mere additions of extra work to the common essentials are no gain unless these are clearly significant and related and are, above all, further elaborations of the common principles set forth as a unifying basis of work.

The higher grades earned by doing these "continuing assignments," or "optional contracts," are not merely measures of greater quantity of work done; rather, when the scheme is rightly organized, these additional jobs are different in kind; they should require keener analysis, longer attention, and a wider organizing view over the field of the subject.

Below are reproduced, just as they have been used in classes at the Wisconsin High School, two 'job sheets,' one in geometry and one in English. These are given as very tentative materials. It is to be noted, moreover, that they are not administrable without a considerable amount of work in devising individual tests, and only part of these are yet available. But mastery can be secured on this route, and nothing less should be considered worth attempting. Other experiments of this kind are reported in *Tri-State English Notes* for May and November, 1924. (Volume II, No. 5 and No. 7.)⁷

First 6 weeks. MATHEMATICS 3. (core, Plane Geometry)

- F Contract (a) Mastery of Propositions I to XII. It must be an *excellent Fair*. No one is marked 80% or 85% or 70% and the like. You either *do* or you *do not* show capacity in the mastery of this challenge. You either *do* or you *do not* demonstrate these propositions.
- (b) You will be able to demonstrate 12 exercises selected out of the first 85 up to the bottom of p. 49. You may select those you desire to prove. I will approve your selection.

⁷ So long as any are available, copies may be obtained from Professor H. Y. Moffett, Department of English, University of Missouri, Columbia, Missouri.

- G Contract (a) All of "F" contract above.
 (b) You will be able to demonstrate all of the exercises to the bottom of p. 49 and to answer questions on any of them not requiring demonstration.
 Your mastery in this contract must be an *excellent good*.
- E Contract (a) All of the "F" and "G" contracts above.
 (b) You will be able to give a correct demonstration of the first 16 exercises, pp. 273-274.

Note to pupils.

You may win an E+ by doing *very well* your work in the E contract, taking pains to do it neatly, and also assisting all you can in making the class work productive. You can take some pupil who is not getting on well and guide him to better work. If you see any one in the class failing to do his best, you can help by your interest and enthusiasm. All this applies to every one in the class. A G+ is an *excellent G*, you know.

Remember: You will be wise to take out a little insurance. I shall not forget the premium. By doing, for example, more than 12 exercises in Contract F, you will be prepared for accidents in a test or examination. You may go back to the supplementary exercises in Contract G and work on them, and by so doing fortify yourself. Then you know there are exercises not in your textbook. You may bring in new exercises *as you will*. It may be that you will have a *magna cum laude*, or something very fine indeed.

Job Sheet I—ENGLISH III, 1925-1926

(Sophomore)

Those problems marked * you may work on at any time.

1. Essentials:—A grade of *excellent* in all these problems is required for a passing mark.

Themes: for suggestions of subjects see one of the teachers. Acceptable themes—themes which are to make a grade of excellent—must have the following forms absolutely right:

- All sentences correctly marked off
- All possessives correctly formed
- All words on essentials spelling list correct

Themes must, of course, be clearly legible and in decent form.

(See posted manuscript for requirements.)

- *1. Two business letters.

One making an inquiry or asking for a catalog, etc.

One ordering two or more articles, stating amounts, form of enclosing money, and payment of shipping expenses

(For correct forms see textbooks on the desk.)

*2. Two friendly letters

One a note of thanks, invitation, or apology

One a letter of a page or more

*3. One oral and one written explanation of a machine or process

*4. One written narrative (story) with some conversation
(See suggestions on the bulletin board.)

*5. Three reports on outside reading

*6. All reading in Part I and Part II of *Literature and Life II* except *Silas Marner*

7. 100% in the following tests:

Sentence Recognition

Grammatical Correctness

Plurals

Possessives

Essentials (proof-reading)

8. The class median, or better in

Briggs Dictionary Test

Thorndike-McCall Reading Test

9. *Excellent* in a grammar test on complex sentences.II. For a grade of *good* or *excellent*, outside work in each of the following three groups is required:

1. Outside reading reports beyond the minimum in paragraphs 5 and 6.

Poe's *Tales*Hawthorne's *Stories**Quentin Durward* or another by Scott

Kipling's stories

Any of the Library Readings suggested in Part I of *Literature and Life* or other readings approved by your teachers.2. Any writing on subjects approved by your teachers and organized for this class—letters you have to write, papers in other subjects, translations, etc. *N.B.* Your problem *must* be approved and organized in English class.

3. Reading aloud to the class or reciting verse or prose selections approved by your English teachers.

It is possible that we may eventually, by this procedure, work out six-year courses for the high-school subjects which will be offered for mastery by the better pupils in a minimum of time. Thus, a good worker might succeed in getting done the common essentials of English or "General Language" and foreign languages in five or

even in four years, and then be free for elective work in English or languages or, if he preferred, in fine arts or music or languages. It is perfectly certain that he could in this time fully meet the most exacting college entrance requirements, for example, by well devised individual work. With such a scheme in view the continuing or optional contracts would perhaps be considerably reduced, and major attention given to striding progressively through an adequate mastery of principles. At present, our interest is rather in broadening and illuminating the road as the youngster advances than in stimulating speed. The scheme of individual work lends itself admirably to either idea. At any rate, we can by this method secure mastery of something as we go, and we can keep every pupil who can be reached by any school interest working at his capacity, not idling at the curb while the rest of the ox train catches up with his car.

B. DEFINITE BREAKING UP OF CLASS ORGANIZATION FOR INDIVIDUAL WORK IN THE COMMON ESSENTIALS

All of the plans described so far attempt to adjust schools to individual differences without giving up the traditional class organization. The members of the class manage to keep pace; all go through each grade at the same general rate. The teacher may give explanations to the entire group; the entire group can discuss the work they are doing; there can be the usual study and recitation periods, the annual promotions, the varying marks on report cards, and all the other accompaniments of the traditional system, yet some adaptation to individual differences is made and any of these plans is an improvement on the unmitigated class system.

There are those, however, who feel that the class system itself is a relic of days when accurate measurement was unknown and the great differences among individuals were not yet recognized. These people feel that to retain the class lock-step, no matter how much mitigated, is to impede progress and to fail of complete adaptation of schools to individual needs and abilities.

A number of plans have therefore been devised for making this complete adaptation. These plans provide for individual progress in the mastery of the common essentials, and at the same time allow for discussion and group enterprises for the socializing of the child's life. Each of these plans, like those in the first part of this Section, has been successfully carried out in actual practice.

I. BURK'S INDIVIDUAL SYSTEM

The first voice in America raised loudly in protest against class lock-step methods of teaching and in earnest advocacy of completely individual progress was that of Preston Search, as Superintendent of Schools, in Pueblo, Colorado. Apparently without any special technique, he simply determined that each child should progress at his own rate—and this was done in Pueblo during the years of Search's incumbency, 1888 to 1894. When Search went to Los Angeles for a brief and ill-fated superintendency, he tried to carry out his ideas there; but he was ahead of his time. From then on, his was "the voice of one crying in the wilderness." But few persons did more than bask in his inspiration, then continue in their old ways.

It was Frederic Burk, with the help of Mary Ward, beginning in 1912 and 1913, who really started the present movement to individualize school work. In the elementary school of the San Francisco State Normal School (as it then was) he developed the first definite technique of individual instruction and promotion. His "self-instruction bulletins" spread all over the United States and to many foreign countries until a ruling of the California attorney general stopped their publication. Burk's school was visited by educators from all parts of the world; his "Monograph C," published in 1915, showing the statistical results of two years of individual work, was widely read and reviewed; teachers trained under Burk carried his methods into rural and village schools, and modified the classroom procedure in their city school classes.

Dr. Burk's death while this *Yearbook* was in preparation, prevented his describing his own work. His co-worker from the beginning, however, Mary Ward, and other members of his faculty, have prepared the following description of this pioneer work in completely breaking the class lock-step.

1. INDIVIDUAL SYSTEM AS DEVELOPED IN THE SAN FRANCISCO STATE TEACHERS COLLEGE

BY MARY A. WARD, GRACE E. CARTER, HILDA M. HOLMES AND
CECILIA ANDERSON

San Francisco State Teachers College

In 1913, with the co-operation and leadership of the late Dr. Frederic L. Burk, the faculty of the training school department of the San Francisco State Teachers College organized all classes from the kindergarten through the eighth grade so that every pupil had the opportunity of progressing in each school subject as rapidly as his individual ability permitted.

Each of the 700 children enrolled was given a copy of the course of study for each subject on his program of studies. Provision was made for testing and promoting pupils as soon as the work outlined for any grade in any subject was completed. Class recitations were abandoned. No daily assignment was given in any subject. This, in brief, is the essence of the system of instruction which has become known as the "Individual System." The title might well be changed to the "Burk Plan of Individual Instruction," for Dr. Burk was the originator of many of the ideas which have been worked out in a practical way by other educators throughout the country.

For many years previous to 1913 Dr. Burk had been interested in the study of individual differences in children and was a foe to anything that savored of the lock-step in education. His plan of individual instruction originated not as an application of his educational theory, but as a means of meeting the pressing needs and difficulties ever present in a training school operated by student teachers.

The interest and enthusiasm manifested by the pupils working under this system exceeded the expectations of the faculty. Problems of discipline and inertia in regard to progress in school work rapidly disappeared.

The need was soon felt for printed material which would permit a pupil to make progress in his work with little or no assistance from his teacher. The faculty went to work with a will to write textbooks which would be fundamentally self-instructive. After much experimenting and revision, a series of self-instructive bulletins was published in arithmetic, geography, grammar, history,

language, and phonics. Over 100,000 copies of these books were sold without advertising and with no profit to the authors.

As soon as these self-instructive bulletins were in the hands of the pupils, it became possible to keep accurate records of the time each pupil took to complete the work of a grade in any subject. Much care was taken to make these records as accurate as possible. The results of this study were published by Dr. Burk in 1915, in a pamphlet known as "Monograph C."

By 1916, the "Individual System" was emerging from the experimental stage, and many ideas were being tested out which would tend to make the system more applicable to the ordinary classroom conditions, but, as has been said, the California state attorney general ruled that it was not the function of a normal school to publish or sell bulletins similar to our self-instructive bulletins. This ruling effectively curtailed many plans of Dr. Burk and his faculty and made it impossible for the institution to do more than keep alive the fundamental principles upon which the system was founded. Faculty efforts could thenceforth be devoted only toward the development of a technique fitted to the needs of a training department of a normal school.

It was Dr. Burk's opinion that the principles of individual instruction could be made applicable to the public school only when the administrative problems were worked out in a public school system. Two of Dr. Burk's former faculty members, Mr. Carleton Washburne and Mr. Willard Beatty, are doing this in the schools of Winnetka, Illinois.

At the present time, all the grades of the San Francisco State Teachers College from the kindergarten through the eighth grade are operating under the individual system of instruction. While individual progress is provided for in the fundamental subjects, abundant opportunity is afforded for group work.

In the following pages a description is given of the organization of each subject to fit the needs of individual instruction.

Each teacher keeps a record, or an individual progress card, of the promotions of every child in each subject. The following charts give a vivid picture of the variation in progress of a typical primary-grade, and a typical grammar-grade room. A careful study of the age, date of entrance, and grading of each pupil will shed much light upon the advantages of the system of instruction.

PROGRESS CHART ROOM 11 (Primary)
 FREDERIC BURK SCHOOL
 SAN FRANCISCO STATE TEACHERS' COLLEGE

Names of Pupils	Age in Months	Date of Entrance	Grade When Entering	September 19, 1924								Group in Spelling	Group in Music	Promotions Between 9/19/24 and 10/20/24
				L1	H1	L2	H2	L3	H3	L4	H4			
Florence	115	8/ 5/24	L3				Spell. Writ.	Arith. Lang.	Read.			III	B	Arith. H3 Lang. H3 Spell. L3 Writ. L3
Dolores	114	8/20/23	L2				Spell.	Read. Lang. Writ.	Arith.			III	A	None
Henry P.	110	1/ 3/22	L1		Writ.	Read.	Spell.	Arith.				II	D	Read. H2 Arith. H3
Jean L.	108	10/5/23	L2			Writ.	Spell.	Read. Arith.	Lang.			II	B	Spell. L3 Writ. H2
Thomas	107	8/ 5/24	L3				Writ. Spell.	Read. Lang. Arith.				II	C	Arith. H3 Spell. L3
Virginia	106	8/19/24	L4						Lang. Writ.	Read. Arith.	Geog.	I	B	Writ. L4
Jean A.	103	8/18/24	L4						Arith. Lang.		Read. Writ.	I	B	None
Sam	102	1/22/23	L2				Spell. Writ.	Arith. Read.	Lang.			III	A	Arith. H3
Jack	102	9/ 1/22	L1			Writ.	Read. Spell.	Arith.				II	C	None

Robert C.	101	9/ 5/22	L1		Writ.		Spell.	Arith.	Read. Lang.		II	B	Arith. H Read. L4
Henry L.	100	9/ 5/22	L1			Writ.	Spell.	Read. Lang.	Arith.		II	A	None
Libert	99	1/ 4/23	L1		Writ.		Spell.	Read. Arith. Lang.			II	A	Arith. H3 Lang. H3 Writ. H2
Niven	97	8/ 4/24			Read. Writ.		Spell.		Arith.		II	A	Spell. L3 Read. L2
Margaret	96	8/ 8/23	L1		Writ.	Read.	Spell.	Arith.			III	C	Read. H2 Writ. H2
Martha	94	1/ 2/23	L1				Writ.	Spell. Lang.	Arith. Read.		II	A	Lang. H3 Read. L4
Robert M.	93	1/ 2/23	L1		Writ.		Spell.	Read. Arith. Lang.			II	A	Arith. H3
Doris	92	1/ 2/23	L1				Read. Writ. Spell.		Arith.		II	B	Spell. L3 Read. L3 Writ. L3
Sulamith	87	8/ 4/24	L2				Writ.	Arith. Read. Lang.			I	A	Arith. H3 Read. H3
Dale	87	8/ 4/24	L1	Writ.	Read.		Spell. Arith.				II	A	Read. L2 Arith. L3 Writ. H1
Leone	86	1/ 4/23	L1				Writ.	Arith. Lang.	Read.		I	D	Arith. H3

This chart shows differentiation of grades for each pupil in a typical primary room. No pupil is in the same grade in all subjects. An individual record card is kept for each pupil showing dates of promotion, in addition to the above data. For explanations of groupings in spelling see pages 71-72. and for music see pages 74-75.

GENERAL COMMENTS ON CHART FOR ROOM 11

1. Pupils are arranged on chart according to age.
2. The average age for the group is 8 years, 4 months. The pupils are well into third-grade work, which is a little better than a normal rate of progress.
3. Leone, who is the youngest in the group, is doing as well as Florence, who is the oldest. Virginia and Jean A. are the most advanced in the group, but they are not the oldest.
4. The younger pupils are less efficient in writing than the older ones, owing to the fact that they have not been in school as long and also that their muscular co-ordination is not so well developed.
5. Pupils are grouped on a social and age basis, rather than according to grade or intelligence quotient.
6. It will be noticed that Florence and Dolores are now both on high-third-grade arithmetic. This does not mean that they are necessarily doing exactly the same work at the same time. Dolores began the high third on August 4, 1924, while Florence began on October 27, 1924.
7. The chart does not show the group work done in music, drawing, dramatics, story telling, health work, and nature study. An average of an hour per day is devoted to these group activities, while the remainder of the school day, $2\frac{1}{2}$ hours, is devoted to the study of the fundamentals listed on the chart. The length of each study period is suited to the age of the group. Free choice of subject to be studied is allowed each pupil. A recess period of 20 minutes is daily devoted to physical education.

NOTES ON INDIVIDUALS IN ROOM 11

The following notes show that in meeting the individual needs of the pupils, advice and co-operation have been sought from the school psychologist, from the health department, and from the home. In fact, anything that may affect a pupil's attitude toward his work is taken into consideration in adapting the program to his needs.

When Florence entered this school August 5, 1924, she was retarded one year. She has already begun to make up her work. It took her 53 days to complete high-second-grade spelling; 31 days to complete low third language, and 58 days to complete low-third arithmetic. In other words, she did this work in about half the time it would have taken her had she been working on a group basis.

Dolores' parents transferred her to this school because she disliked her previous school so much that she would cry and beg to stay at home every morning. She now seems perfectly contented and is making fairly good progress.

Henry P.'s retardation is due to ill health. He has lost as much as three months at a time. However, he has never had to repeat a grade. His progress has merely been slower than that of most pupils.

Robert C. and Henry L. entered school the same day. Their attendance

has been regular, and they are practically the same age. Robert excels Henry, owing partly to a higher mentality and partly to lack of ambition on Henry's part. Had they been attending a school organized on the group basis, they would probably be just beginning the third-grade work and both boys would be expected to do exactly the same amount of work at exactly the same time and at exactly the same rate. A study of the chart shows a marked differentiation in their achievement.

Libert, Martha, Doris, and Leone entered four months later than Robert C. and Henry L. Their work is on about the same level, except that Doris does not read as well as the others.

Niven entered from private school. He is very slow in reading, but excellent in arithmetic. Individual instruction is providing for his case. He has already made a promotion in reading, having completed high-first-grade reading in 46 days.

Margaret is finding reading a little difficult because of her lack of familiarity with the English language. She is learning to read German at home. It has taken her 231 days to complete three half-grades in reading, whereas she completed four half-grades of arithmetic in 127 days.

Sulamith came to this school as a low-second-grade pupil. Inventory tests showed that she was capable of doing more advanced work. She has already made two important promotions. It took her 57 days to complete low-third-grade arithmetic and in 25 days her reading had improved enough to warrant a promotion to high-third-grade reading. On a group basis she would probably be doing only high-second-grade work and would therefore have time to spare to become a discipline problem.

Though Dale is almost 8 years old, she has never been at school before this term, nor has she had any instruction in school subjects at home. She could not even read when she came. Individual instruction is taking care of her case in a way group instruction could never do. Margaret completed low-first-grade reading in 23 days, high-first reading in 25 days, and the entire second-grade arithmetic in 26 days.

Leone has a decided speech defect. However, her progress in the formal work is not impeded, since it does not depend upon recitations before the group. She takes part in group activities freely so long as no one calls attention to her speech. Special help is given to overcome her defect.

PROGRESS CHART ROOM 22 (Grammar Grade)

FREDERIC BURK SCHOOL

SAN FRANCISCO STATE TEACHERS' COLLEGE

Names of Pupils	Age in Months	Date of Entrance	Grade When Entering	Grade if Below H5 in Any Subject	September 19, 1924								Group in Spelling	Group in Music	Special Subjects	Promotions Between 9/19/24 and 10/20/24
					H5	L6	H6	L7	H7	L8	II8					
Ruth	161	3/11/21	H3		Writ. Q	Arith.	Gram.	Geog.	Hist.			Read. C Writ. S	I	B	Dram. Draw.	Arith. H6
Victor	157	9/ 6/17	L1				Arith. Gram. Writ.		Geog. Hist.			Read.	I	A	Sci. Glee M.T.	Arith. L7 Read.
Jane	154	2/11/19	L2		Spell.		Read. Gram. Geog.	Arith. Hist.	Writ. Q	Writ. S			II	A	Draw. Chem. Music	Geog. L7 Gram. L7 Read. L7
Dorothea	152	12/13/20	L3			Read. Spell.	Hist.	Arith. Gram. Geog.	Writ.				II	A	Dram. Cook. Glee	Read. L7
Cecil	149	1/10/21	H3	Writ. S2 Spell. L4	Read. Writ. Q		Arith. Gram. Hist.	Geog.					III	B	Draw. Music Elec.	Hist. L7 Read. L6
Amelba	148	1/29/18	L1		Spell.	Read.	Gram. Hist. Writ. S	Geog.	Writ. Q				II	A	Draw. Sew. Glee	Gram. L7 Hist. L7 Read. H6
Galen	148	1/27/20		Writ. Q4	Arith.		Gram. Spell.	Geog. Read.	Hist.			Writ. S	II	B	Dram. J.R.C.	Arith. Read. H7
Linda	148	8/18/19	L1	Writ. Q4	Spell.		Arith. Gram. Hist.	Read. Geog.		Writ. S			II	A	Draw. Chem. Music	Read. H7
Clara	147	8/27/24	L7				Spell.	Geog. Gram.	Arith. Hist.	Read.			II	B	Draw. Sci.	Read. H8

Milda	146	2/12/19	L1			Gram.	Read. Hist. Writ. Q	Arith. Geog.	Writ. S			I	B	Sew. J.R.C. Glee	Read. L7
Dorothy	145	3/11/21	H3	Writ. Q4		Arith.	Geog. Gram. Hist.		Writ. S	Read.		I	C	Dram. J.R.C. Hist. L7	Arith. H6 Hist. L7
Eleanor O.	144	1/ 7/19	L1			Spell.	Read. Gram. Writ. Q	Arith. Geog. Hist.		Writ. S		II	B	Sew. J.R.C. Glee	None
Eleanor C.	143	9/ 5/22				Arith.	Hist.	Read. Gram. Geog.		Writ.		I	C	Draw. Sew.	Absent
Charles	140	1/ 3/22	H3		Writ. Q			Arith. Gram. Writ. S	Read. Geog. Hist.			I	B	Draw. M.T.	Arith. H7 Read. L8
Stanton	139	9/ 5/22	H4	Writ. Q3			Read. Gram. Hist.	Arith. Geog.	Writ. S			I	C	Sci. M.T.	None
Grace	139	8/18/19	L1		Writ. Q		Arith. Gram. Hist.	Read. Geog.	Spell.	Writ. S		II	B	Draw. Dram.	None
Lillian	138	1/ 2/19	L1		Spell.		Hist. Arith.	Read. Gram. Geog.		Writ.		II	C	Draw. Cook. Glee	Hist. L7 Read. H7
Pauline	137	9/19/21	H3				Arith. Spell.	Read. Gram. Geog.	Writ. S Hist.	Writ. Q		II	A	Dram. Cook. Glee	Arith. L7 Geog. H7 Gram. H7
Milton	133	1/ 6/20	H1	Writ. S	Spell. Writ. Q	Read. Gram.	Hist.	Arith. Geog.				II	C	Sci. M.T. Gard.	Arith. H7 Hist. L7 Read. H6
George	131	2/ 9/23	L4		Read.		Arith. Gram. Writ.	Geog.	Hist.			I	A	Sci. M.T. J.R.C.	Read. L6 Arith. L7
Frederic	119	1/ 5/20	L1	Writ. 4					Gram. Arith.	Hist.	Read. Geog.	I	D	M.T. Sci.	Returned 10/14/24

This chart shows the differentiation of grades for each pupil in a typical grammar-grade room. No pupil is in the same grade in all subjects. An individual record card is kept for each pupil, showing dates of promotion in addition to the above data. For explanations as to groupings in spelling see pages 71-72 and for music see pages 74-75. The last column shows the special subjects chosen by the pupils. One hour every day is devoted to this work.

GENERAL COMMENTS ON CHART FOR ROOM 22

1. The average age for this group is about 12 years.
2. Frederic is the youngest in the group and the most advanced.
3. The chart shows that most of the group were doing high-sixth- and low-seventh-grade work on September 19, 1924. The promotions listed in the last column show that they are rapidly becoming a low-seventh-grade and high-seventh-grade group.
4. The grouping for each room is made on a social and age basis, rather than on an intellectual or achievement basis.
5. Writing in the grammar grades is graded under two heads, namely, quality and speed. Note the case of Ruth, whose quality in writing is high fifth, but whose speed is high eighth.
6. This group spends 30 minutes a day on music, 20 minutes on physical education, 45 minutes on special subjects, and 40 minutes a week on health work.
7. The formal work in civics is part of the eighth-grade history course.
8. The special subjects for a group of rooms come at the same period each day. Each pupil has absolutely free choice as to the selection of this work. Neither his teachers, his supervisor, nor his parents are allowed to interfere with his choice. If he does not care to choose special work for every day in the week, he may spend that time studying either in his classroom or in the library.

NOTES ON INDIVIDUALS IN ROOM 22

The following notes show that in adjusting the school program to meet the ends of each individual we have the co-operation of the school psychologist, the school nurse, and the home.

Ruth's work is the most scattered of the group. She has already completed the requirements for eighth-grade reading. Her sister Dorothy has about the same mentality. They were transferred to this school from another city just after Ruth had had the shock of having failed to make her grade. She has scarcely yet recovered her self-confidence and attacks new material in arithmetic with a fear that she will never be able to do it.

Victor is one of a pair of unlike twins. His brother is superior to him and is now in his second year of the high school. Without this handicap, Victor would probably have done better in school. He has attended long enough to be further advanced. However, he has never had to repeat a grade; his progress has merely been slower than that of most other children.

Dorothea was a very difficult problem when she came, about four years ago. She was absolutely indifferent toward her school work. She was much over-weight. Through the co-operation of the school nurse, the mother was prevailed upon to alter the child's diet. Her attitude toward her work has improved remarkably. From a lazy, self-indulgent child

she has become a studious, thoughtful girl, popular with her classmates and teachers.

Galen is a boy of strong literary and artistic tendencies and has great difficulty with arithmetic. Individual instruction provides very definitely for his case, as shown by the chart.

It is very interesting to note that Linda and Grace started school the same day and have made about the same progress. On the other hand, Lillian, who entered about a half year earlier, owing to slow progress at first, is now about on a level with Linda and Grace.

Clara entered this fall as a low-seventh-grade pupil from a school conducted on a group basis. She has already made promotions in arithmetic, history, and reading.

Though Cecil has a serious health and speech handicap, he has been able to hold his own in most subjects with pupils of his own age. When he entered three years ago, he had never adapted himself to school life. He showed no interest in his work and took no responsibility for his progress. He now has shouldered the responsibility and works entirely on his own initiative.

Lillian's teeth were very bad. They protruded so that they were extremely disfiguring. She was a timid, quiet, little girl, never asserting herself in any way. Her progress in school was slow, though she seemed mentally capable of doing as well as her classmates. She was taken to a dentist and braces were put on her teeth. As her personal appearance improved, there was a change in her whole attitude. She developed self-confidence, and her rate of progress was accelerated until now she is no longer retarded.

George has severe eye trouble and is not allowed to do any reading except what is absolutely necessary at school. Hence his grade for reading is comparatively low. The time that he can spend on reading is given to geography and history. Our system permits steady progress although in this case it is slow, for the efficiency of the pupil is lowered by his physical handicap.

Frederic, who is less than 10 years old, has been out of school while the family was in the Orient. Individual instruction places him in his subjects, regardless of the time spent in school.

A BRIEF DESCRIPTION OF THE ORGANIZATION OF EACH SUBJECT UNDER THE SAN FRANCISCO STATE TEACHERS COLLEGE PLAN OF INDIVIDUAL WORK

I. Reading

As a basis for the course of study for individual instruction in first-grade reading, a word count was made from primers and from first and second readers in common use. The word lists for each story in the state primer were divided into two groups—one con-

taining words common to primers, first, and second readers; the other containing words used only in a particular story. The former list is used as a basis for word drill, and complete mastery is expected. Incidental learning is relied upon for the second list.

Differentiation is apparent from the first day. The following figures show the variation in amount of time needed by a group of pupils to complete the state primer: 14, 15, 16, 31, 39, 47, 51, 51, 51, 54, 59, 69, 112 days.

In our individual system of instruction provision is made for each pupil to measure his own progress in reading, to recall temporarily forgotten words by the use of the picture dictionary, and to test himself for speed and comprehension. The standard for passing from one unit of reading to another is the understanding of the story read, rather than a parrot-like repetition of words. There is no oral reading in the usual sense. No child is required to listen to another read and explain what he himself has already read.

Each child draws his own books from the school library. He has one book for school reading, accurate account of which is kept by the teacher by an 'O. K.' bookmark system. The 'O. K.'s are given on ability to tell the story, rather than on ability to read it orally, though some oral reading may be done with only the teacher as an audience. Each pupil has another book, called his "home reader," on which he is tested after he has finished reading it at home. Beginning with the fifth grade, the suggested reading lists are dropped and still wider opportunity is given for individuals to follow their own tastes. In the upper grades most of the reading is now done outside of school, though very accurate account of it is kept by the teacher.

2. Arithmetic

The introductory number work and the work in addition, subtraction, multiplication, and division of integers is given to the pupil in bulletin form. This material is divided into short steps, or goals. Each goal consists of one definite principle to be mastered. Carefully graded explanations of new steps are written in such simple language that a pupil requires a minimum of help from the teacher. Self-corrective tests reveal to the pupil his weakness on any unit of work. Special supplementary exercises are available for drill on each specific difficulty.

The state texts in arithmetic furnish additional material for each grade. Each pupil progresses according to his ability and interest. He gets as much or as little help as he needs from his teacher.

When a pupil can pass a test on all the arithmetic work outlined for a grade, he receives a promotion slip. As shown by records elsewhere, the amount of time taken to complete a grade of work varies with the individual child. The records also show that an individual child may vary in his rate of progress, *i.e.*, he may take longer to complete some grades than others.

3. Spelling

Individual differences in ability to spell are taken care of by the following procedure: a standardized test in spelling is given annually to all children in the school above the second grade. According to the results of this test, the pupils of each class are divided into three groups.

Group I consists of those pupils who seem to learn to spell incidentally. Pupils falling into this group receive no further instruction in spelling. Each year they take the standardized test with the other children. After six years of experimenting, we find that this method of grouping in spelling is quite accurate.

The pupils who fall into Group II are those who can learn to spell through study and find no difficulty in keeping their spelling abreast with their other school subjects.

The pupils of Group III are those who have a great deal of difficulty with spelling—who, even with much effort on their part and on the part of their teachers find it extremely difficult to make the usual progress in spelling.

The pupils of Groups II and III study spelling from their "inventory lists." These lists have been obtained by dictating the entire word list of the grade to which each pupil belongs. Each pupil receives a prepared list of his own misspelled words for study. When he has mastered this list, a new inventory list is made by dictating, without previous study, the words of the next grade.

The pupils of Group II need little or no help in studying spelling, while the pupils of Group III are given much assistance. All known spelling helps are used, but no effort is made to force this group to attain the standards of the other two groups.

4. Primary Language

Since formal language (by which we mean correct forms of written and spoken English) is a matter of habit formation, no pupil is ever considered to have 'completed' the course, though we promote in the subject, as in arithmetic or reading. The course of study in language is planned so that certain specific elements are emphasized in each grade. Weekly tests follow instruction and drill upon these elements. Two perfect tests entitle a pupil to a promotion, but the promotion does not mean that he is through with that particular unit. The promotion is merely a sign of progress. The tests are cumulative and, until a pupil finishes the high-fifth grade, he takes weekly tests on all the units of the course of study so far as he has gone. For instance, a pupil graded 'high fourth' in language and takes weekly tests on the low-third, high-third, and low-fourth elements as well as on the high-fourth-grade elements. His daily drill and practice exercises are determined by his individual errors in the weekly tests.

5. Composition

In composition much emphasis is placed upon individual effort. Practically all written work is individual. Each pupil's writing is largely an expression, in a limited way, of his own interests and inclinations.

Practically all written group work grows out of requests of individuals who wish to participate in the same undertaking. Group work of this type becomes a challenge to both individual and co-operative effort.

The amount of oral work given far exceeds the written, and the child places conscious effort upon his own improvement as well as upon the improvement of the group.

Specifically gifted pupils group themselves into clubs in which they have opportunity for the unfoldment of their special talents.

6. Map Geography

A very definite course in locational geography gives familiarity with names and locations of the places which a pupil meets in the geography reading, which also forms an important part of the

geography work. The reading course consists of books about people of other lands. It is not specifically laid out, but pupils are allowed to follow their interests in choosing from the books on hand.

We recognize the fact that a time comes in each child's life when he shows curiosity about a map. This interest is very often stimulated through outside contacts or through reading. At this point opportunity is seized to teach those locations which form a basis for later work in geography. The work is placed before the pupil in the form of a self-instructive bulletin. Enthusiasm and outside interests affect the time taken to cover this course.

7. History, Civics, Geography

The formal side of the social science subjects is supplemented by a program rich in social and creative activities. A requirement that at least two books and many stereoscope pictures be consulted on each topic studied gives the pupil a wide variety of material as the basis for interesting class programs and discussions. These programs are further enriched by the use of the visual education equipment.

Activities which call for co-operative organized group work are also initiated by individual pupils. This necessitates a group discussion of problems encountered, the writing of letters of invitation and letters of comment or explanation, the drafting of constitutions, by-laws, and other civic documents, and their adoption by the class. The *School News*, edited and published by the pupils, gives wide publicity to these projects. Meeting the present needs of the pupils in this way provides abundant drill on oral and written English and on practical problems in civics.

Under such a program of individual and social living and study, each grammar-grade class becomes a miniature community with many interests involving individuals, groups, subjects, and materials. Opportunity is thus provided for the development of individual qualities of leadership and a rich program of socialization.

8. Penmanship

Group lessons in penmanship are given for such general points as posture, movement, and rhythm. Individual lessons are planned to overcome difficulties in letter formation, slant, alignment, size

of letters, etc. The Starch writing scale furnishes definite goals toward which a pupil works. Tests are given at stated periods or at any time a pupil requests one. Promotions in penmanship are based upon attainments in both speed and accuracy.

10. Dramatics

Opportunity for work in dramatics of a highly social nature is given throughout the school. Below the fifth grade, each room is constantly at work upon the dramatic representation of a story. In the grammar grades there are special classes in dramatics for the children who elect to join them. All the work is of a spontaneous nature; that is, the parts are not memorized. The only exception to this is in the case of the special classes. They occasionally produce a play adhering to the printed form.

11. Music

Entering pupils are tested as to natural voice quality and ability to imitate short rhythmic phrases. They fall into four groups. Group A includes the talented pupils, who begin immediately on regular first-grade work. Groups B, C, and D, are special help groups. The pupils of these groups are promoted as their individual difficulties are corrected.

The second-, third-, and fourth-grade pupils are grouped according to native ability, sight-reading ability, and voice quality. Progress from one group to another is possible. The material used is the state music text.

Since the pupils are segregated into groups according to their musical ability and progress, it is necessary to change rooms for the music lesson. This is called "circling." Four or five rooms have their music lesson at the same period. At a signal, the children march into the hall and "circle" to their music rooms.

The grammar grades also "circle" for music. As in the primary grades, the groups are fluid. A pupil who stands out in a group as a leader, needing little drill, responding before the others have comprehended the problem, is advanced to a group where he will have to work up to his highest capacity. A slow pupil who has reached the limit of his musical ability is placed where he can retain his musical

self-respect. Thus, individual ability and progress are cared for through constant shifting of groups. (See also under "15. Special Music.")

12. Art

The art department works along two lines, group activity and individual instruction. Group activities grow out of the general activities of the children of each room. These projects engage the interest, in one way or another, of all the children in each group. Enough skill is developed to enable the children to draw from objects and to make their own designs and patterns. Children's standards, not those of adults, are used in judging results. Opportunity to do individual creative work is provided for all pupils in all grades. Through special classes, talented children are given unusual opportunities to develop their gifts. (See also under "16. Special Art.")

13. Nature Study

Nature study is one of the subjects which provides for the individual interests of the children. A nature laboratory is maintained to which pupils bring objects of interest and in which they assemble their private collections, care for pets not welcome at home, press plants, mount insects, propagate plants, consult nature books and files, etc. Opportunity for individual work in this subject is provided for all the primary pupils. Pupils above the primary grades may elect to take nature study or some other phase of elementary science as a special subject.

The work of the primary grades has a social phase in that some of the material brought by the pupils is used as a basis for class lessons. In the absence of such material, the teacher provides a subject for discussion.

14. Special Subjects

In addition to the fundamental courses provision is made for classes in which the special interests of the individual pupils are served. Besides those listed below, special classes are provided in cooking, sewing, penmanship, dramatics, travel, and composition.

15. Special Music

Pupils may elect to join the boys' or girls' glee clubs or a class in musical appreciation. These groups are not limited to talented chil-

dren, but they are open to any who wish to join them. The pupils are encouraged to take the initiative in suggesting material and interpretations. They are made to feel that the instructor is there only to help them carry out their own ideas. Local musical events are the basis for many lessons. The 'jazzing' of classics has led to the serious study of many of the original compositions.

16. Special Art

The pupils in the special art classes carry on three types of work. To exercise purely creative power, they choose their favorite subjects and compose pictures or designs from their own mental images. To exercise their power of imagination, they compose designs or pictures, using certain objects as the center of interest. To improve their technique, they occasionally copy a good painting or a line drawing. The teachers, acting as advisers only, help the pupils to keep in mind the principles of good design and color harmony. The designs made are used in craft work, and some of the pictures made are used to decorate the rooms and the halls.

17. Elementary Science

The grammar-grade pupils are permitted to select the type of science work in which they are most interested, whether it be gardening, chemistry of common things, electricity, or advanced nature study. After a few lessons designed to familiarize them with experimental procedure and simple laboratory technique, each individual investigates problems within the field he has chosen. If he has particular experiments in mind, he works at those; otherwise he selects from a prepared list. We do not attempt to measure standards of achievement other than those which should result from a sincere interest on the part of the pupil, since we have as an objective of this elementary science work, attitudes and appreciation, rather than the mastery of an array of scientific facts.

18. Mechanical Construction

The shop is open to boys of any grade who "want to make something." On entering the class with an 'idea,' the boy is told to make a drawing of it. Some of these are very crude, but a few lines

thrown together give the instructor a clearer idea of what the boy has in mind than any amount of verbal or written description. From this crude drawing the boy is taught individually how to make a working drawing to scale. He then begins with the actual construction and gets his knowledge and skill in handling tools and materials through working out his idea.

19. Junior Rotary Club

The Junior Rotary Club was formed to study and give practice in parliamentary law. From this foundation grew an active school citizenship club. Such problems as arise in the cafeteria, in the halls, in the children's library, etc., are brought up for discussion through the medium of parliamentary practice. Committees are then appointed to draw up recommendations to be sent to the faculty, and other committees are appointed to carry out the proposals after their return.

Debating and discussions of current civics problems are other activities of the Junior Rotary Club.

20. Kindergarten

The San Francisco State Teachers College conducts a kindergarten in a foreign quarter of the city. Special attention is given to the development of control of the English language. Each child's language difficulty is diagnosed. Tests are given to discover whether he has the ability to overcome the difficulty. Every opportunity is given to practice the correct sound until the correct habit is established. No formal drills are given but the child works hard to say "Thank you" for his milk, instead of "Dank you," or "Tank you."

2. BURK'S INDIVIDUAL SYSTEM AS DEVELOPED AT WINNETKA

BY CARLETON W. WASHBURNE

Superintendent of Schools, Winnetka, Illinois

The public schools of Redondo Beach, California, among others, bodily took over Burk's methods and materials; so did some

parochial schools. For the most part, however, people failed to see the applicability of Burk's basic principles to city school systems. They assumed that because Burk had adapted these principles to a normal training school, they could not be adapted to other types of schools. It was not until certain public school systems began to take hold of the movement, therefore, that it spread with any rapidity.

The first public school system definitely to undertake this work was that of Winnetka, Illinois. The thousands of visitors to the Winnetka schools, the spread of the Winnetka mimeographed materials and the texts that are just beginning to be published, the lectures given in various parts of the country by members of the Winnetka staff, the articles on the Winnetka schools in professional periodicals, and such lay periodicals as the *Christian Science Monitor*, *Collier's*, and *The New Republic*, have done much to spread the idea that the class lock-step can be broken in public schools, and that schools can be fitted to individual differences. Summer courses dealing largely or entirely with the Winnetka plan of adapting schools to individual differences have been given in Northwestern University, the University of Chicago, and the University of Oregon. Demonstrations of the Winnetka plan have been given for the summer sessions of Teachers' College, New York; Rutgers College in New Jersey; the College of William and Mary in Virginia; Ohio University at Athens, Ohio; and Normal University in Illinois.

Public schools have recently been experimenting actively along this same line in Bronxville and Dunkirk, New York; in Miami, Florida; in Peru, Indiana; in Racine, Wisconsin; and to a greater or less degree in many other places. The movement seems to be just getting well under way, and bids fair not to stop until all schools make provision for the wide differences that exist among individual children.

Winnetka is a residential suburb of Chicago, with a population of 10,000. The schools have been entirely free from politics for many years and the Board of Education has consistently been composed of intelligent, public spirited men and women. While public affairs are controlled by people of unusual attainments, the school population is sufficiently heterogeneous to be fairly typical of many American communities—there are children from homes of wealth, occasional children from the homes of newly arrived, pov-

erty-stricken immigrants, and many children from simple, comfortable homes. The median intelligence quotient of the Winnetka school children on the National Intelligence Test is 106.65.

The teachers are fairly well paid and are carefully selected. It has been their whole-hearted, clear-headed, co-operative efforts which have made the Winnetka experiment successful.

The technique of individualizing the Winnetka Schools, developed under these favorable conditions, is detailed in Section V, but may be summarized here as follows:

The curriculum is divided into two parts. One part deals with knowledges and skills of which everyone alike needs mastery. The other part provides for each child self-expression and the opportunity to contribute to the group something of his own special interests and abilities.

Under the first head, come the common essentials—the ‘three R’s’ and similar subject matter. Every child needs to know certain elements of arithmetic, needs to be able to read with a certain speed and comprehension, needs to spell certain common words, needs to know something about those persons, places, and events to which reference is constantly made. Since every child needs these things, and since every child differs from others in his ability to grasp them, the time and amount of practice to fit each child’s needs must be varied. Under the old régime, in the effort to give different children the same subject matter in the same length of time, the quality of the children’s work, the degree of their mastery, varied from poor to excellent, as attested by their report cards. But under the Winnetka technique of individual education, instead of quality varying, time varies: a child may take as much time as he needs to master a unit of work, but master it he must. The common essentials, by definition, are those knowledges and skills needed by everyone; to allow many children, therefore, to pass through school with hazy and inadequate grasp of them, as one must under the class lock-step scheme, is to fail in one of the functions of the school.

The part of the curriculum which should provide self-expression and group activities is quite another matter. Here there is no common skill or knowledge to be mastered. Here each child may legitimately differ from his neighbor in what he gets from school. It is the school’s job to provide opportunities for his special interests.

and abilities to develop. In this field, education recognizes the importance to evolution of the law of variation, and therefore takes full advantage of children's differences. The children must learn how to make up for their weaknesses by using the strength of others and how to contribute their special abilities to the undertakings of the group.

To provide for both of these main divisions of the curriculum, half the morning and half the afternoon are given over to individual work in the common essentials, while the other half of each session is given to group and creative activities.

During the time devoted to individual work in the common essentials, every child does his own job. If one steps into a "fourth-grade room," for example, he may find each child doing a different thing. One is just finishing third-grade arithmetic, another has begun compound multiplication, another is in the middle of long division, while still another may be beginning fifth-grade work in fractions. A child may be doing fourth-grade arithmetic during one period, but a few minutes later, in the same room, be doing fifth-grade reading.

There are no recitations. Each child prepares a unit of work, checks his results with an answer sheet, and goes on to the next unit. When he has done a small group of units—an amount of work which may have taken him three days or two weeks—he tests himself on this group: if he finds that he has mastered it, that his practice test is 100 percent right, he asks the teacher for a real test. This test the teacher corrects. If it is not 100 percent, the child practices again on the weak points shown by it, then asks for a re-test. When he shows the teacher that the group of units (called a "goal" in Winnetka) is mastered, he works on toward the next goal.

The teacher, under this plan, spends her whole time teaching, not listening to recitations. She helps an individual here or a group there; she encourages and supervises. She is about among the children as they work, not at her desk.

No child ever "fails." Nor does one ever "skip a grade." If in June a child has not finished his grade's work, in September he goes on from where he left off. If a child can do more than a grade's work a

year, he does so—but he does *all* the work, without skipping any. The child is on a piece-work basis, not a time-work basis. He gets the habit of mastering each thing he undertakes.

During the half of the morning and half of the afternoon devoted to group and creative activities, the children are not working toward any set goals, nor are they tested. Going into one of the rooms during this part of the day, one may find the children dramatizing a part of their history work. Perhaps they are putting on a very informal impromptu dramatization, or perhaps they are preparing a more elaborate one which may be presented to the school as a whole during assembly.

The assembly is a sort of open forum. One day it may be a program planned by the children and entirely conducted by them. Another day it may be a business meeting in which all the local school affairs are discussed and worked out by the children themselves. It is interesting to see a third-grade child presiding over an assembly of two or three hundred of her school mates, in good parliamentary form, and entertaining notions regarding such things as whether children should ride their bicycles on the playground or whether snowballing on the playground should be permitted.

Every child in the Winnetka schools has an opportunity to serve on some committee. These committees manage all the student activities. They are usually made up of representatives from each classroom. They are sufficiently numerous to provide a place for every child. In one school, for instance, there is a committee on assembly programs, a committee on care of school grounds, a committee on the care of plants in classrooms, a committee on the toilets, a committee on playground rules, and so on through the gamut of school affairs.

It is during the group and creative activities part of the day that the Winnetka children have their field trips; that one room may entertain another; that creative work is done in art and in shop work, each child making the thing which he himself wishes to make. It is during this part of the day that the children issue their school newspaper, articles to which are contributed by children from the first grade up. The editing, type-setting, proof-reading, and business management of the newspaper are in the hands of the seventh and

eighth grade junior-high-school children, who carry a real commercial account in one of the Winnetka banks, and pay all their bills with checks.

It is during this freer part of the day that children learn how to fit their interests and abilities in with those of others, to co-operate, to participate in the activities of the group. At such times they learn to merge their personal interests in the welfare of the whole, and they learn to contribute their special abilities to this group welfare.

By providing flexibility of time for the mastery of common essentials and by providing opportunity for children to exercise and use their different interests and abilities, the Winnetka schools are adapting the curriculum to the individual differences that exist among children.

II. THE DALTON PLAN

The most widely known form of individual instruction is the Dalton Plan, which was first introduced into a public school system in the high school of Dalton, Massachusetts, a few months after the work in Winnetka was inaugurated. It remained almost unknown in this country until Rosa Bassett put it into the Girls' Secondary School in Streatham, London. This experiment caused an educational furore in England, the reverberation of which woke America up to the experiment Helen Parkhurst had inaugurated in Dalton.

In England, Miss Parkhurst tells us, there are now over 1500 Dalton Plan schools. Miss Parkhurst is also authority for the statement that the Dalton Plan has been adopted as the official method in Holland and in Moscow, that there are Dalton Plan schools in Norway, Germany, Poland, Austria, and Spain, and that 450 public or government schools in Japan (Japanese speaking) are operated on this plan, 250 schools in China, and 50 in India. She definitely knows of 200 in the United States and her book has been translated into 12 languages. All this in about four years!

The fact that the plan does not call for any changes in the curriculum or texts, and yet does much to free the child and individualize his work, probably accounts for its rapid spread. There are those, however, who feel that it is putting new wine in old bottles to adopt the very progressive Dalton Plan while continuing to use traditional curriculum and texts.

To this Miss Parkhurst would probably agree—but the curriculum and texts, she feels, are not her job. She has provided “the vehicle;” it is the task of others to furnish that which is to be carried.

THE DALTON LABORATORY PLAN ¹

By HELEN PARKHURST

The Dalton Laboratory Plan is a sociological, rather than a curricular experiment. It aims to socialize the school and keep its life from becoming mechanical. It emphasizes a change in the condi-

¹ Loaned to the *Twenty-Fourth Yearbook*. Copyright reserved.

tions of the *life of the school* instead of concentrating upon the curriculum as do most other educational experiments. The Dalton Plan should be considered a *vehicle for* the curriculum. With it one may use a formal or an informal curriculum. As curriculum is to be thought of as a pupil's 'mental food,' it is understood that one of the determining factors of a pupils' development will be whether or not the curriculum transported by this 'vehicle' satisfies his needs.

To give an understanding of the Dalton Plan, it is necessary for me to state its philosophy and psychology. Briefly, this is to enumerate its principles. In connection with the Dalton Plan, it may be said that these principles are not a result of tardy or recent rationalizing about the plan itself; instead, these principles were laid down at the inception of the plan, and have been carefully followed, and proclaimed as the contribution of the laboratory plan (now Dalton Laboratory Plan) since 1911.

There are but three fundamental principles, viz.—*First, Freedom; Second, Co-operation and Interaction of Group Life, or Community Living; and Third, The Proportion of Effort to Attainment, or Budgeting Time.* Principle One is common to many education experiments as a prerequisite and it has had many advocates. By "freedom," I mean freedom to work without interruptions in order to pursue an interest and in order to develop concentration. As applied to an individual, it is understood to mean that he is to be freed from those habits or conditions which enslave his life or impede his complete development.

In the use of Principles Two and Three, the laboratory plan, now known generally as the "Dalton Plan," antedates other educational experiments. These two principles are therefore to be considered as the plan's contribution to educational procedure.

Theoretically, there is "nothing new under the sun;" and practically, the only new thing in the Dalton Plan is its departure from old school practices and the new procedure instituted to introduce the second and third principles into the school.

It may be well to note how the second principle, *i. e.*, the interaction of group life or community living, is brought about. Instead of the usual grade rooms and grade teachers, we have subject laboratories and specialists; instead of confining the pupils of a single

grade to one room, the pupils of four or five grades have access to as many laboratories and are permitted to go from subject laboratory to subject laboratory, *mingling and living*, within the school, while engaged in school pursuits, just as the community outside of school lives and works. It is impossible for an individual pupil, an individual teacher, or an individual class under the Dalton Plan to live independently of others. Here we put in operation Dewey's theory that "A democratic education is not merely to make an individual an intelligent participant in the life of his immediate group, but to bring the various groups into such *constant interaction* that *no individual, no economic group, could presume to live independently of others.*"

Every school has a stated amount of time in which to do a given amount of work, and so, in accordance with the third principle (proportion of effort to attainment, or budgeting of time) we map out the work for each class in the form of a job and permit individual pupils to budget the time allotted for a month (laboratory time) according to the demands of their individual needs and difficulties.

Under these principles, the Dalton Plan creates new conditions of school life in which the pupils, to enjoy them, involuntarily function as individual members of a social community. A pupil forms the same kind of relationships in his school life that he will afterwards meet in his business or professional life.

Those who desire to be intelligent about the Dalton Plan must not confuse it with curriculum. Although there appears to be a wide margin between the advocates of individual instruction and the advocates of the project method, both of which groups are conducting worthy experiments in curriculum, neither group will find the Dalton Plan anything but a helpful agent for administering and furthering its ideals or program of work. Consistently, the Dalton Plan has been kept out of the field of curricular debate and confined to experiments in "learning" as based on *the laws of learning*. Investigation shows that excellent results have been achieved in schools that have used the Dalton Plan as a vehicle for the curriculum as administered according to the program based upon methods of individual instruction; and again, in other schools, projects have become the spontaneous expression of the *real living* of children who, under the conditions of the Dalton Plan, arranged their own course,

checked their results, and budgeted their own time with great satisfaction and profit.

The "individual instructionists" find it necessary to supplement their program by adding dramatics, games, etc., in order to safeguard their program from becoming too mechanical; the enthusiasts of the project find their ideal program blocked because at each step they are confronted by the out-of-date school machinery of the average school, and because teachers, while recognizing the value of the new, are handicapped for lack of a school procedure which will permit or encourage any new attempts.

The Dalton Plan does not aim to reconcile these two groups, the "individual instructionists" and "projectionists," because to us they seem sincerely headed in different directions. What the Dalton Plan does aim to do, is to reorganize the *life of the school* and furnish it with a procedure which will be advantageous to either group; permit pupils to enjoy true community life, to build up from day to day the sort of habits which one needs in life outside of school, and to put the child in command of his own resources so that he becomes master instead of servant. Under the Dalton Plan, a pupil can truly become an 'efficiency expert' of his own affairs. The procedure of the Dalton Plan can be used regardless of the curriculum adhered to; it is not a back-door method of forcing 'interesting learning' but a way of permitting the learner to learn.

To institute the Dalton Plan, it is not necessary to banish our system of school grades; there is every opportunity for spontaneous work; there is opportunity for drill at the very moment when it is necessary, either from the teacher's point of view or that of the pupil; pupils are permitted to progress at their own rate of speed in various subjects unhampered within the circumference of the job; and there is true opportunity for all-round *individual development*.

A great Russian actor who lives for the theatre, after visiting a Dalton school a second time, said: "Every laboratory is a theatre and creative energy is continuously freed. This beautiful drama being enacted before our eyes is *life* at its very best."

Under the Dalton Plan, the pupil is given his work in the shape of a series of related jobs. The work of any job is very carefully outlined, sometimes by the teachers, often by the pupils, depending upon the kind of school. Each job corresponds to what can easily be

done within a school month of 20 days. The number of jobs outlined for a school year depends upon the number of months comprising the academic year of the school using the plan. Thus, the number varies from eight to ten jobs.

The Dalton Plan is applicable to any part of the school above, and beginning with, the fourth grade. The fourth grade is taken as a starting point because pupils of that age and of that stage supposedly have the tool subjects sufficiently well in hand to enable them to work independently and easily. *L*

A single job may be the working out of a single idea or each job may be made up of a collection of correlated assignments of work. In a school where, say, five subjects compose the curriculum, if the work is to be arranged in jobs, work would be outlined in advance to cover a 20-day period, and work sheets or procedure sheets (assignments) would be made out to show a pupil how to attack each subject. Individual copies of these work sheets (assignments) would be given to each pupil.

We speak of a "job" as comprising a certain number of "units" of work. A unit of work, in quantity, approximates, or corresponds to, what would usually be assigned for a daily recitation in a subject. Twenty units of work would be outlined for each subject taught. If a grade's curriculum had *five subjects*, then a *job* would comprise 20×5 units, or 100 units of work. A unit of work, *from the pupil's point of view*, is not a set amount to be done in a certain stated amount of time, nor does a unit of history, for instance, equal a unit of music or art. Pupils take as much time as they need out of the entire amount at their disposal, to do any given 20 units of work of an assignment.

Teachers have to be careful not to outline more work for a job than pupils can accomplish in the combined laboratory periods of any given 20-day period, but very slow pupils may take more than 20 days if necessary. To safeguard setting too much work, I suggest a teacher's "time-set," as a gauge.

A morning in a Daltonized school is divided into two short periods and one very long period, viz.: first, an organization period lasting from 15 to 30 minutes; second, a laboratory period from two to three hours, and preferably at the close of the morning, a conference period lasting 30 or 40 minutes.

The Dalton Plan does not prescribe any set amount of time for "laboratory time," but it is suggested that, whenever possible, three fourths of the morning time be made available for this purpose.

Let us say that a school sets aside three hours as laboratory time. then, in a school month of 20 days, a pupil's laboratory time would approximate 20×3 hours, or 60 hours. Each pupil, therefore, would have at his disposal 60 hours in which to do his 100 units of work. This 60 hours is budgeted by each pupil to serve his individual needs, and *definite instruction is given as to how to budget time*. If a pupil does the entire job (100 units) in less than 60 hours, he immediately proceeds with the next job. There is no waiting for slower pupils, nor are slow pupils rushed along at an accelerated rate or carried by the momentum of the class, producing inaccurate, slovenly work; nor would a slow pupil have to finish in 20 days. *He may have more time whenever necessary*; nor is a 20-day period supposed to coincide with a series of school or calendar months. A pupil counts "one" as his first work day, and so marks his work graph. "Two" is his second day, etc. Absent days are not counted. We go from 1 to 20, because work is set on a 20-day basis.

If a school desired to devote to English the equivalent of 40 minutes a day as a minimum, then the English teacher, in mapping out his work, would guard against outlining more for 20 days (20 units) than could be done by a slow pupil in 20×40 minutes, or 800 minutes. We go further, for we make weekly divisions. These weekly divisions do not block a pupil's interest or retard his progress; they are psychological divisions rather than actual stop signals; they merely indicate to the pupil that a fourth of any subject of the job is completed and put behind him. In the particular subject mentioned, English, the teacher's "time-set" for a week would be 5×40 , or 200 minutes.

A pupil may do all of his work, subject by subject, one subject at a time, or a little of one and much of another. He is free to plan his own time and discover his own better methods of work. The reason for a "time-set" should be made clear. It is to make sure that the job set for 60 hours can be done, by a slow pupil, in that time. I here give a "time-set" for a school with a curriculum comprising five subjects and 60 hours laboratory time.

TIME-SET

Subjects	A Unit Basis 1 day's Work	A Week's Work 5-unit Basis	A Month's Work 20-unit Basis
English	40	200	800
History *	45	225	900
Geography *	45	225	900
Mathematics	30	150	600
Science or Nature Study	20	100	400
A month's job of 5 assignments	180 min., or 3 hrs. daily	900 min., or 15 hrs. a week's basis	3600 min., or 60 hrs.

* Or the Social Sciences.

My personal opinion is that teachers *should not put the "time-set" in the hands of pupils*, for fear that doing so will rob the third principle of the Dalton Plan (budgeting of time) of its function. As a pupil learns to budget his time to better advantage, a job can often be done in less than 60 hours, and a new job be undertaken immediately. This means that a bright pupil will save time on his whole job. Thus, in a year, he can do more than the regular work mapped out for a grade. A pupil might, for instance, be able to do a particular week's work in mathematics in 70 minutes, and, as compared to the time-set, have 80 minutes additional for some difficult subject, like history. He then would be permitted 125 minutes for history if he desired; whereas otherwise he would have been permitted only 45. Time saved on one subject may be used for another subject or used in getting ahead more quickly.

Laboratories, or subject work-shops, are established for each subject, but in the separate laboratories pupils spend only the time necessary to accomplish an assignment of work. Each pupil has a job card to measure his progress; he can see at a glance just where he stands on the whole job. A special pupil time-chart is provided for older pupils so that they can record how they as individuals are using their time.

When the Dalton Plan is applied to an entire school, the high-school subject laboratories are considered as one unit, and the elementary school as another unit. The plan of work, and the organization of the school with its new procedure, in reality extends the province of the junior high school so as to include the fourth grade.

When any division of the school has more than 250 pupils—say, for instance, that the elementary school (IV-VIII) has 1250 pupils—we establish five sets of laboratories for each subject.

To insure community living and mingling, we group pupils according to a cross-section division plan, as is indicated in the accompanying scheme for 1250 pupils.

LABORATORY DISTRIBUTION FOR 1250 PUPILS

	"A"	"B"	"C"	"D"	"E"
Grade	Laboratories	Laboratories	Laboratories	Laboratories	Laboratories
4th	50 Pupils	50 Pupils	50 Pupils	50 Pupils	50 Pupils
5th	50 "	50 "	50 "	50 "	50 "
6th	50 "	50 "	50 "	50 "	50 "
7th	50 "	50 "	50 "	50 "	50 "
8th	50 "	50 "	50 "	50 "	50 "
Total	250 Pupils in Group "A"	250 Pupils in Group "B"	250 Pupils in Group "C"	250 Pupils in Group "D"	250 Pupils in Group "E"

This table indicates that the 1250 elementary pupils, which would ordinarily constitute five 4th grades, five 5th grades, five 6th grades, five 7th grades, and five 8th grades, or 25 grades with 25 teachers, would, under the Dalton Plan, be reclassified so that in each cross-section unit of 250, we should keep for each community group, one 4th grade, one 5th grade, one 6th grade, one 7th grade, and one 8th grade (five grades and five teachers). In order to have pupils going consistently to the same laboratories, we have all of the "A" Group go to "A" Laboratories, "B" Group to "B" Laboratories, etc. There would be five laboratories for each group. In the "A" Group there would be, for instance, an A Science or Nature Laboratory, an A Mathematics Laboratory, an A English Laboratory and either two A Social Science Laboratories or an A History Laboratory and an A Geography Laboratory. Just as five grades in the usual grade school need five teachers, the Dalton Plan would use five teachers for the five laboratories in each unit.

We consider 250 pupils the maximum for a division. Anything below is treated in the same fashion. If, for instance, 250 pupils was the enrollment of the elementary school, there would be five laboratories and five teachers; if 500, there would be 10 with 10 teachers, etc. In my own school, the "Children's University," because we have put art and music and dramatics on the same basis as other sub-

jects, we have nine laboratories, *i. e.*, laboratories for art, music, a theatre, English, science, French, and two for social science (history and geography combined), as well as a library. This, of course, gives a very broad and cultural curriculum.

The pupils remain in grades and have their grade jobs; they go from laboratory to laboratory according to their interests and needs, and without asking permission, during the laboratory time; and they are free to choose and plan within the limits of the job. These jobs depend upon a child's capacity and rank. There is but one restriction to a pupil's freedom. If he does the 20 units of history required by his job, he cannot go on in the subject, history, until he has completed his 20 units of geography, his 20 units of mathematics, etc.—or, in other words, until all of "Job 1" is completed. Then he may proceed with Job II, unhandicapped. This is very important, because an uninstructed pupil cannot wisely organize and budget time. All of a single grade get together with an "Organization Advisor," the same one, at the same time each morning. Pupils report their progress, make their individual time tables for the day, and study the problem of how to reconcile any shortages in their unit scores. A pupil carrying five subjects, has a "work norm" of five units, and should do five units each day. If a pupil fails to get this norm, perhaps when he is doing his most difficult subjects, he is taught to swing into an easier subject next day so that he can do more. This helps him to get ahead or to break even and thus reconcile any shortage.

During laboratory time, pupils are encouraged to work together in grade groups according to the demand or through the medium of the assignment. If, for instance, a fourth-grade pupil entered a laboratory, while there, unless he was confronted with a special piece of work which could only be done by working alone, he must work in that part of the room set aside for his grade. This grouping encourages discussion and debate, and gives a line of direction to conversation which might be promiscuous if the pupils had nothing in common. Before pupils leave a laboratory, they record their progress on their individual job graphs, also on the instructor's graph, which is to be considered a class progress graph. The class progress graphs show an instructor where each individual of a class is in his work at any time.

The last half-hour of the morning (forty minutes in some schools) is designated as "conference time." The pupils who met at "organization time" now meet again for a conference—that is, they confer together over a specified part of the job, according to a posted conference schedule. Monday a grade may meet in geography, Tuesday in history, Wednesday in English, Thursday in science, and Friday in mathematics. During this time, debates, reviews, reports, etc., are given—anything which relates to the subject for which the pupils are called in conference.

These conferences, coming once a week as they do, are not considered as a time for presenting new material. They are too infrequent for that purpose. Presentations of new material are scheduled on a "Presentation Bulletin Board," and are at the call of the teachers, who schedule special calls or classes in accordance with the progress and need of individuals or groups. These appointments are classified and posted under grade headings. They are posted in the morning before the pupils arrive, so that, upon arrival, each pupil makes a daily memorandum of the engagements he is to have with his instructors. He takes these interruptions into account at organization time when planning his day. In this way, a teacher may call together several individuals, or an entire class, as often as necessary, as determined by the need of a subject. Here the only restriction is that there shall be no more than two "special presentation conferences" scheduled for any single grade in the course of a morning, and that the first notice posted shall have preference. This may make it necessary for a second instructor to change the hour of his appointment. Whenever an entire class is called, a sign is put on the laboratory door saying: "This laboratory is closed." All others than the class called are expected to "stay out." This is to avoid interruptions. When small groups are called, the laboratory remains "open" to capacity. To avoid crowding, a capacity limit is set for each laboratory, *i. e.*, a number indicating capacity is posted on the door. If an instructor desires to take some grade on an excursion to a museum or industrial plant, lasting an entire morning, a notice is posted for that grade, telling the time, the meeting place, etc. The instructor puts up the "Closed Laboratory" sign and is off with the pupils.

The plan combines class work, spontaneous group work, and in-

dividual work, but above all it is designed to give pupils a training in handling a job, to teach a pupil to manage time and to plan his work; and at each step of the way take himself and his needs into account in order to assure *individual development* at each point.

Dr. Karl F. Muenzinger of Colorado University, says:

"If, in teaching according to the Dalton Plan, there are to be no more class periods; if the student may spend as much time in the geography laboratory as he pleases before he decides for himself to go to the science laboratory; if he can start this morning with history and to-morrow with French as his interest directs him—where will such unheard of independence get him to? Does not such a plan make study a prey of the variable moods and whims of the youth who should be guided wisely and firmly? This danger is more apparent than real since the Dalton Plan matches such a freedom with a greater definiteness as regards the subject matter than can be found in the usual school curriculum. The 'units' and 'job' of the Dalton Plan remind one very strongly of the task system of scientific management. Just as the industrial engineer has to study and analyze the work and the worker, and construct such tasks as will make 'a good day's work,' so the teacher under the new plan has to study and analyze the subject and student, and prepare 'units,' a required number of which will make a week's or a month's work.

"The definiteness of such a task, or unit, enables the student to envisage his problem, and to know how fast he is progressing in his work. Unlike the worker under scientific management, however, he is not told to do this particular job and no other, but he is allowed to choose which job he may tackle this morning and to solve as much or as little of it as he wants, only—all the jobs for the month must be completed before he can start next month's work. When he starts to work on a chosen subject he has a definite 'set' towards his problem, the importance of which for the learning process cannot be overestimated, and this attitude has been brought about under the best possible conditions. It is not the result of the ringing of a bell and a change of classrooms (how could we ever think this would turn the trick?), but it is the result of the student's own choice, determined by his desires and interests, on the one hand, and his needs as he himself sees them, on the other hand.

"The dangers that might be perceived in such a system of definite tasks (units and jobs) and strong incentives (progress charts) are offset by the freedom in the choice of subjects for a given day. It is in this combination of definiteness and freedom that the strength of the Dalton Plan lies. Under a properly conducted scientific management system, each worker becomes his own efficiency engineer; he studies every factor that influences his production; and he acquires new habits and drops wasteful ones so as to increase his efficiency. Under the Dalton Plan, where free-

dom and definiteness are combined, each student is bound to study his methods and analyze his progress into factors that hinder or further it. He is led to study his own needs and possibilities, and to acquire the habits of work that are adapted to himself as well as to his subjects. May we not expect that he will find out much that will supplement the results of experimental education?"

III. INDIVIDUAL WORK IN THE PRIMARY GRADES: AN ENGLISH EXPERIMENT

Working independently, not knowing of Burk's work or any other American experiments, and beginning in 1919 before the Dalton Plan had been introduced into public schools, Jessie Mackinder has probably gone farther in individualizing the work of beginners in school than has any other person. Space limitations have prevented her from giving more than a glimpse of her work in this *Yearbook*; but fortunately, she has published a complete account of it in book form (see bibliography). The wealth of materials and games prepared by her and the members of her staff have made individual self-instruction possible with big classes (40 to 54) of little children. Hers is one of the most important contributions to fitting public schools to individual children.

INDIVIDUAL WORK IN AN INFANTS' SCHOOL

By JESSIE MACKINDER

Headmistress, Marlborough Infants' School, L.C.C., London, England

"The Marlborough" London County Council Infants' School is attended by children from homes which vary from those consisting of one room for the entire family to those situated in blocks of workmen's dwellings where three or four rooms are provided for one family. The children's difficulties are created more by poverty of experience than by lack of money.

Children from the poorest or the most overcrowded homes are admitted at three years of age to the nursery class. In this class no instruction in the "three R's" is attempted, but individual work is begun.

The babies are taught to help themselves to any one of the many "games" which are based on sorting by color, shape or size; on pairing, by color, shape; or, in the case of pictures, by examination of the subject.

These "games" are hung round the classroom. The babies may take any one. The rules are: (1) No child may take a game from

another child; (2) The game which is being used by any child must be hung up before that child takes another game.

The babies sit in chairs at small tables which accommodate four children. The teacher passes around showing children how to play the games they have chosen, but she does not, in any way, interfere with their choice.

These occupations interest the three-year-olds for about $1\frac{1}{4}$ hours in the first part of the forenoon. They then have physical exercises in the playground, when they run races or play follow-the-leader or similar games where each child, though a member of a group, is doing his part as an individual.

The rest of the morning is occupied in class work, such as singing, learning to talk, and rhythmic work.

The afternoon is spent in sleep. Each baby places himself or herself in his cot on entering school and the majority fall asleep within fifteen minutes. They sleep from an hour to an hour and a half. They then fold up their cots and go home.

The children from less crowded homes are admitted to the school when from 4 years, 6 months, to about 5 years, 3 months, of age.

Sense training occupations are provided for these children similar to those described for the babies' use, but these older children are not long attracted by such games.

Letters and a "sound frieze"⁹ are provided; by which the children can discover the sounds of the letters of the alphabet. When a child has discovered the sound of a letter, he brings the letter to the teacher, tells her the sound, replaces the letter, and proceeds to discover the sound of another letter.

When this becomes easy to him, he *writes* the letter after he has discovered the sound and says the sound as he points to his own writing. In this grade, then, some children will be seen walking round the room examining the frieze; some will be writing letters on their small boards, in chalk; some will be waiting round the teacher until their turn comes to say the sound just discovered; and some will be using the sense training games.

These individual occupations usually hold the children's interest

⁹ This frieze consists of pictures of common objects, such as apple, boy, cat, dog, etc., with the initial letters, *a, b, c, d*, under each. By naming the picture the child learns the sound of the initial letter.

for about 70 minutes. The remainder of the morning session is spent in group work, such as story telling, singing, ring games, and language lessons.

The afternoons, in this class, are a compromise. Those children who, in the nursery class, formed the sleep habit still wish to sleep. Those children who joined school too late to be placed in the babies' class have a very great objection to lying down, without a job, in the afternoon. So they are allowed to occupy themselves as they wish, either with ordinary toys or the material used in the morning, until they become sleepy. When they wish to sleep, they do so.

One teacher recently joined the staff who thought the learning of sounds of letters was too great a task for children round about 5 years of age, in the afternoons. She locked up the letters in the afternoons and left only the rest of the material available. She was forced to produce the letters because some of her children wept for them and refused to look at anything else.

John is nearly five. He learned all the consonants and the five short vowel sounds in ten days, entirely without help. John is very well developed. Peggy is six months older, but very small. These two sat beside each other. The teacher suggested that now John might write his letters. He said he could not. His teacher said: "What a funny thing! Peggy is much smaller and she *can* write!" John measured Peggy and found her head just reached his shoulder. He sat down and watched her writing. He then wrote the letters she wrote and, without any word, just held up his board for the teacher to see.

John next found three letter nouns, on boards, each one with the picture of the thing named on the back of the board. By saying the sounds of the letters, and looking at the picture on a board, he realized that these three sounds together made the name of the thing pictured. So he learned to 'build' words from sounds, using 50 of these three-letter words for this purpose. The children find out these words, unite them, and say them to the teacher as they did with letters.

The next step is the conquest of the irregular small words so constantly used in the simplest sentences, *e. g.*, *do*, *so*, *to*, *the*, *are*, and in which the letters have sounds which are not yet familiar to the child.

These tiresome words are written in twos or threes on differently colored cards. The teacher tells the child the words. When he can remember those on the blue card, he may take a red card or a yellow

card. He has a new card just as soon as he memorizes the words on the card in his possession.

His next step is the reading of simple sentences, using the words already learned.

He then may have a reading book. In his book he keeps a card. The teacher writes on the card the number of the first page. The child alone prepares this page for reading alone to the teacher. When he can read that page, it is marked off on his card and he prepares the next page. When he has so prepared and read to his teacher every page of this book, he has a more difficult one wherein he meets the 36 most common phonograms, *ea, oa, er, ir*, etc.

He teaches himself these phonograms (as he taught himself the sounds of letters) by the use of phonogram boards, and works through this second book, keeping his own record of progress, as he did with book one.¹⁰

In this way he masters the merely *mechanical* art of reading or, rather, of recognizing words. This is not "reading" in the proper sense of that term. Fluency in reading, interest in the subject matter and ability to remember what is read are obtained by the child's reading, independently, and to himself, a large number of very simple story books. Such books are in the classroom for the children's use whenever they wish to do such reading. The class teacher does not hear the children read from these books.

No child receives any teaching in reading along with any other child. He proceeds to the next higher stage when he has completed the work of the previous one.

It often happens that amongst children who started school in the same class and at the same time there are some still learning letter sounds while others are reading simple tales.

The learning of spellings, the construction of sentences and writing answers to questions on information gained by independent reading are all graded, and each grade of work is accomplished by the individual child independently of any other child in the class.

The children learn figures and number groups by identifying given symbols with those on a figure indicator and, from this stage,

¹⁰ The actual process and apparatus is fully described in *Individual Work in Infants' Schools*, by J. M. Mackinder, published by The Educational Publishing Company, Cardiff, Wales. Price 3/6

proceed from stage to stage of the arithmetic syllabus as they are ready for progress. In arithmetic, the working of a new process with the concrete material is shown to a group of children. They are then left to work many examples until, having grasped the underlying principle, they discard the apparatus in their own time.

There is a time on the time-table of the school marked "Individual Work in the Three R's." During this time the child may work at reading, arithmetic, spelling, composition, or may merely read for the pleasure of reading stories. He is gradually trained to do some work in each subject each morning, but he does work of his own choice. The class teacher keeps a record of his progress from grade to grade, in each subject, and occasionally tests back work.

This individual work goes on from 9 to 10:40 A. M. There is then an interval of 20 minutes for play. From 11:00 to 12:00 the class does group work, in the form of singing lessons, physical exercises, or scripture lessons.

In the afternoons the children from 6 to 7 years of age have individual work from 2:05 to 2:30, whilst the teacher attends to any child who has been passed over in the morning and needs attention. The rest of the afternoon is spent in group handwork, stories, games, or lantern talks on history or geography.

IV. INDIVIDUAL WORK IN LOS ANGELES

On the opposite side of the world, and beginning a little later than Miss Mackinder, A. H. Sutherland, then Director of the Bureau of Research in the Los Angeles public schools, worked into individual instruction through intensive study of the causes of maladjustment. His materials and methods as applied to adjustment rooms were purely individual. They produced such remarkable results that they were tried in an entire elementary school in Los Angeles. Dr. Sutherland describes here his work in the adjustment rooms, then lets the principal of the Sixty-First Street school tell her own story of the success of his methods in a school full of normal children.

1. INDIVIDUAL WORK IN LOS ANGELES ADJUSTMENT ROOMS

By A. H. SUTHERLAND

In September, 1917, psychological research work began in the ungraded rooms of Los Angeles. Binet tests were somewhat familiar to the teachers, but the results were often not accepted. Group intelligence and educational tests were practically unknown. The preliminary problem was one of 'selling' the testing and follow-up program. After the tests were given and computed, it was necessary to show that something could be done, by reorganizing old methods or instituting new methods, to enable the child to bring his level of achievement up to that of others of his age and grade.

A division of the general problem seemed advisable. There were, then, the sub-problems of the establishment of a definite purpose for the ungraded room, the establishment of adequate methods of determining the nature of difficulty the child was having, the training of teachers and principals, the reduction of teacher load or the substitution of a different type of load, the specification of just the types of materials to suit particular findings to be used as exercises for self-development on the part of the child, the establishment of standards by which child and teacher should know when the ungraded room had accomplished its purpose, the outlining of definite relations between ungraded room and grades, and the setting up

of administrative relations with the school as a whole and its system of organization and with the curriculum.

Since teachers do not teach by precepts acquired by them in the normal school, but rather—very much rather—by that emotional state which carries them through their conversations outside of school, the value of the preceptual instruction of the normal school has long been held in low esteem. As a means of giving first-hand information to the teacher as to the nature of a child's mental processes with which she was to deal, a number of teachers were urged to enter classes in "Learning." To get the 'feel of learning' is to get something which enables the teacher to put herself in the shoes of the child, and evaluate a task from his standpoint. Teachers uniformly believed in the courses given and found them helpful. Courses in the technique of giving tests, with the understanding that a test is a cross section of some learning process, were also eagerly sought.

The make-up of materials to enable the teacher to help the child increase that particular ability which seemed to be underdeveloped required a study of the present curriculum. The question undertaken was not: "How shall we make an ideal curriculum?" but rather: "How can we prepare a curriculum which will most rapidly and most successfully enable a child to fit into the school system?"

The purpose of the ungraded room was held to be "mental hygiene." The child was to go into such a room for a definite educational purpose, remain there until the purpose was accomplished, and immediately be transferred again to his regular grade. The child's need was to be determined by standardized tests. It was also necessary to distinguish between "recoverable" and "irrecoverable" cases, *i. e.*, between normal and feeble-minded.

The teacher's load was reduced; first, by preparing the materials for her so that night work and after-school work was reduced to a minimum; and second, by reducing the spread of pupils by selecting for "Upper Adjustment" rooms those pupils who needed help in work of the fourth- to the sixth-grade levels; and for "Primary Adjustment" rooms those pupils needing work of the first- to the third-grade levels.

Tests were worked out to cover the practice materials and the mental abilities which are required to handle those materials. These

are unstandardized and have constantly been changed by vote of the teachers as they follow their pupils who have been transferred back to a grade. These tests are beyond the level of difficulty which the pupil of the corresponding grade can successfully pass. Tentative efforts to standardize them have shown that less than five percent can make a creditable record. Yet every pupil in an adjustment room must pass those tests in order to work his way out of the adjustment room into the grade.

The administrative relations have been somewhat difficult to work out, since so many principals find little time in which to examine individual children. It is easier to read their transfer cards and dispose of each case by 'shooing' him into a grade seat. With the growth of the counselor movement, however, this difficulty has partially been solved in schools that can be reached by counselor service.¹¹

The result of the general program has been the establishment of a large number of special rooms through which the pupils flow in a constant stream and in which they work out their own difficulties before returning to their grades. In response to a persistent demand, the same method of handling pupils has been applied to one entire elementary school which is described in what follows.

2. INDIVIDUAL WORK IN THE SIXTY-FIRST STREET SCHOOL

By MRS. MARGARET SMITH

Principal of the Sixty-First Street School, Los Angeles, California

The individual education method was introduced into the regular classrooms in November, 1921. About 350 children are now working under this method. The children enter the work in the third grade and continue through the sixth. So far, approximately 200 children

¹¹ In 1924, 21 elementary-school teachers and 5 high-school teachers have been released from classroom duties and, after special training, spend their time in giving group tests throughout a school, using the plan described in McCall's *How to Measure in Education*. This has been described in part by Willis W. Clark, in the *Journal of Educational Research*, under the title "Educational status of the Los Angeles elementary schools."

have been sent to the junior high school. These have received very favorable reports. Even those who do not have special ability in school work are reported as being independent students.

Every pupil in the grades is given various standardized achievement tests and participates in a group intelligence test. These place him as to group and as to type at work he needs in each subject.

After a child is tested, his progress card shows him just what he is to do in each subject at a given time until he has proved his strength or weakness.

In the upper grades a child is allowed to make his own progress, giving the major portion of his time to the subject in which he is weakest. He selects his materials and works by himself. If he comes to an insurmountable difficulty, he asks his neighbor to help him, as in any social order. If the neighbor is unable to help, he takes his difficulty to the authority, the teacher. After she has straightened out his manner of attack, he returns to work alone.

When he has finished the level or when he finds the work too easy, he asks for a test in that subject. If he passes it, he takes up the work of the next level: if he does not pass it, he puts more time on the work before asking for another test.

The social group consciousness is highly developed in this method of instruction. First in his dependence upon his neighbor for help in timing, in pronouncing of words, in correcting written expression exercises; later in consideration for his neighbor during tests. When a number are taking time tests, all the other children are as quiet as possible, tip-toeing when it is necessary to leave their seats, and discontinuing all whispering in connection with work—all of this without suggestion from the teacher. Even the little B3's sense the significance of quiet while their neighbor is trying to concentrate on a critical piece of work. As soon, however, as the teacher calls time, there is a hum of work again.

There is much more satisfaction to the principal in visiting a room where individual work is in progress than in visiting one which adheres to the traditional class methods. A visit does not merely note a brilliant lesson on the part of the teacher or perfect order because of the presence of the principal. The children are perfectly free and do not fear criticism because of moving freely about nor because of talking with their neighbors concerning their

work. The principal must understand the giving of educational, group intelligence, and individual intelligence tests. It is also necessary to be able to analyze the results of such tests and to know the teachers and their abilities, so as to judge which one will be able to understand the special needs of each child.

When a new child enters the school, he is given the placement tests by the principal:—the Courtis tests in fundamentals, if he is B4 or above (the primary tests are given to those below), the Gray, Starch, Woody-McCall and a National Group Test. The results of these tests are analyzed and the pupil placed in the room doing the group work of his grade. If he is below that grade in one or more subjects, he is given work of the level that his tests indicate and is encouraged to catch up to his grade.

The principal must check up frequently on particular children so as to be certain that her judgment of the child's requirements and the teacher's abilities has been exact.

Many children are able to pass the comprehension tests, yet are not able to give orally to others the things they have learned. In order that a child may overcome this disability, there is a course in oral expression. This consists of reports given to the class. Each child gives two or three reports during the term, selecting history, geography or current event topics from a list furnished to the class; or he may choose his own topic. Ample time is given for preparation. He may do all of the work outside of school time, getting material at home or at the public library. If he has his other work well in hand, he may prepare his report in the classroom. He is to be the judge. A list of questions is prepared whereby he is able to test his ability to give his knowledge to others.

There are certain standards of performance that are laid down. After the report and questions are completed, the pupil reads these standards to the class and the members vote upon his ability to meet the requirements.

This method develops the oral abilities and causes a sensitive child to become less self-conscious. He takes part in judging the work of his fellows and is able to profit by the judgment of his work by others. The evaluations of these points are entirely impersonal; they are given for the benefit of the individual and for the benefit of the group.

The same individual development and group consciousness is encouraged in the work in nature study, physical training, and manual arts.

Parents, as a rule, are enthusiastic about the system. Many have volunteered the fact that their children are much more interested, others that their children are much less nervous than under the old system. Under the class system, slow, normal children can sometimes slip through the grades without their real abilities or disabilities being discovered until they reach the junior high school, but these children are discerned in the individual work immediately. Of course, the parents of such children sometimes cannot understand their children's disability and object to its discovery, but, for the most part, parents appreciate the definiteness of the teacher's information about their children and the adaptation of the school work to their children's needs.

V. INDIVIDUALIZED INSTRUCTION IN DETROIT

The slow, steady individualization of work in the public school system of a large city is best illustrated by the work in Detroit. Beginning ten years ago, these schools have gradually been breaking the lock-step. Pending complete individualization, they have made shift with ability grouping.

But the results of this ability grouping have convinced Stuart Courtis that complete individualization of certain parts of school work is the only real way to adjust the schools to individual differences.

THE DEVELOPMENT OF INDIVIDUALIZED INSTRUCTION AT DETROIT

By STUART A. COURTIS

Detroit Teachers College

Detroit for many years has been officially committed to a policy of individualization of mass instruction wherever the goal of instructional effort is the development of individual skill in control of the fundamental tools.

The process of individualization of instruction began far back in the past. The first educational tests were given in the Detroit schools in 1910 and the very first data secured made clear both the inefficiency of mass methods and the need for adjustment of work to individuals. The results of the New York City and Boston surveys in 1912-13 were decisive in their influence.¹² They suggested that the unsatisfactory conditions observed in Detroit were universal (which has since been proved to be the case); also that the remedy was to be sought in devising methods of adjusting school work to individual needs. The writer had already begun crude experiments in this direction and these were now pushed through to completion. His standard practice tests in arithmetic are the outcome of those experiments. The next year Assistant Superintendent Spain began experimental work in the Detroit public schools with a practice booklet modeled on the same plan. In his report to the Superinten-

¹² Report of Committee on School Inquiry, Part II, Subdivision I, Section D, pp. 76, 153, 155.

dent,¹³ Mr. Spain says: "The only conclusion to be drawn from these results seems to be that improvement in arithmetic must be brought about through some device that will reach each individual and enable him to progress at his own rate." These early experiments yielded conclusive evidence of the value of the new principles, although many of the data have long since been lost in discarded files.

In 1914 a Bureau of Educational Research was established and the writer was appointed supervisor in charge, to introduce his individualized lessons in arithmetic into the Detroit schools, and to measure and improve the efficiency of teaching in the other school subjects. The drill lessons in arithmetic were used in sixty schools the first year.

The Detroit standard practice tests in arithmetic were specifically designed to enable a teacher to adjust drill work in arithmetic to the needs of her individual pupils. They consist of a series of exercises in the four operations with whole numbers, ranging in content from use of simple combinations to complex operations. Each lesson involves some new element, as bridging the tens, control of attention span, carrying, etc., so that the tests are diagnostic. Each lesson is standardized and made to contain enough material of its type to permit a uniform time allowance for all lessons. For instance, if the time allowed for a given grade is four minutes for Lesson 1, the time allowance for every lesson is four minutes. It is this feature which makes it possible completely to individualize progress without destroying the class formation. The first day the entire class, however large, takes the first lesson. Only those who finish all examples in the tests in the time allowed and have every example right are considered to have passed the test. Thus, growth in both rate and accuracy up to standard is assured in those who pass a test and at the same time over-training is guarded against. As soon as a child finishes a lesson, he goes on at once to the next. If he fails, it is proof that he needs to study until he masters the element of difficulty involved. The tests are constructed with a device which makes correction by the pupils possible. As the routine work of the teacher is concerned only with

¹³ Seventy-first Annual Report of the Board of Education of the City of Detroit for the year ending June 30, 1914.

timing and recording, each child can work at the task which is for him the critical next step in his development. He can progress at his own rate and learn in his own way without in the least disturbing the organization of the class as a whole. To the casual observer of a test period, it might seem that the teacher was conducting a mass drill. However, closer inspection would show that by the middle of the semester the children may be working on 20 or 30 different lessons and that the work is really completely and perfectly individualized.

An essential element in the correct use of the practice tests is the transfer of responsibility for growth from teacher to pupil. Early experiments proved that, in drills for skill, mere repetition without the desire and purpose to improve has little effect. Accordingly, self-scoring devices, daily individual records, and graphs were used as an aid to motivation. That is, the children were taken into partnership and put in charge of their own development. Only those papers in which the children themselves can find no mistake come to the teacher. She is thus relieved of a vast amount of drudgery and set free for remedial work with individuals. Moreover, the repeated failure of any pupil on a particular lesson is warning that the child needs assistance with the particular element of difficulty involved. The tests thus act as selective instruments to indicate both which children need assistance and the nature of the assistance needed. Experience shows that where children really take charge of their own development, one competent teacher can minister adequately to the needs of 50 children, yet completely individualize her instruction.

The early control experiments with the practice tests yielded remarkable results.¹⁴ Measured in terms both of the amount of gain and of the number of children gaining, selected teachers, using the practice tests as they were designed to be used, secured five and six times the conventional gains. However, when practice tests were used by teachers on a large scale, the results proved heartbreakingly disappointing. Only a very slight increase in efficiency could be discovered when teachers merely used the test cards as so much

¹⁴ Confirmed by other investigators. See "An Experiment in the Fundamentals," by C. D. Mead, Letter of Transmittal. School Efficiency Monographs.

teacher-controlled drill material. Thus, although the experimental work proved that individualization was to be desired, the immediate problem became the training of teachers to a new point of view.

As an aid to this education of teachers, a special form of record sheet (see illustration) was adopted and made uniform for all the routine testing of the city. Class scores, instead of being averages in terms of examples worked, percents of accuracy, etc., were made indices of how closely children approximated the standards for their grades. The record sheet was divided into five divisions. The scores in each division are printed on the record sheets. As the teacher tabulates, she sees at once where the individual stands. Those who fall in Group I are already at standard and can be excused from drill work of the type tested. Those who fall in Group II are so near standard that ordinary daily use of skill in applied work will supply the drill needed. They, too, can be excused from drill; if given the drill lessons, they will finish in less than standard time. Those in Group III are average children in need of thorough drill. Those in Group IV need an extra amount of drill, while those in Group V are so far behind that without special attention they are almost certain to fail.

The record sheet as a whole thus presents a vivid picture of where every child stands in relation to the standard, and emphasizes individual differences. The teacher's task is to help all the children reach Group I. The class score is determined by the percentage of children in each group. These are given arbitrary weights depending upon the task to be accomplished. When every child is up to standard, the score is 1000 points. A score of 300 thus means that the class as a whole has only 30 percent of the standard development desired.

This record sheet, adopted in 1918, has been a very great aid in developing, in both teachers and children, a realization of the differences in achievements of individuals and in leading to appraisal of individual progress. Much teacher initiation in temporary grouping of pupils for instructional purposes and in selective treatment of individuals has been a consequence. There has been a great growth in the use of individual progress graphs and of many different informal methods of individualizing instruction.

Tabulation

Initial

Detroit Public Schools
Department of Educational Research

Number

Spelling Dictation Test, Class Record Sheet

Duplicate: To be returned to the department

School Illustration Room 210Examiner Eather Johnson Grade _____ Group _____Date 9/16/23 Test used: Form H

Special conditions affecting the results _____

Class Score: Points this test 744 Points previous test _____ Gain _____

Results Correct _____ Notice of mistakes sent _____

Results checked by _____

Scores Group I	Children of Standard Ability			No.	%	Points
	0 mistakes, or perfect papers.,					
	477			5	33 x 10	330
Scores Group II	Children for whom regular work will furnish sufficient drill				27 x 9	
	1 1	2 1	3 11	4		243
Scores Group III	Children in need of thorough drill				13 x 7	
	4 5	6 7	8 9	2		91
Scores Group IV	Children who need special attention and extra drill				20 x 4	
	10 11 12	13 14 15	16 17 18	3		80
Scores Group V	Children for whom some special adjustment of work must be made				7 x 0	
	Record here all scores larger than those above.,			1		0
	23					
Totals				15	100	744

Note: 12 means 12

Note: 12 means 12 words misspelled.
Record here all scores changed by retesting.

Since, for the development of knowledge and skill, the use of standardized practice test material completely solves all problems of dealing with differences in intelligence, achievement, and rates of growth, and yet does not upset the conventional class organization, there has been a persistent clamor for similar materials in other subjects. The essential features of the practice tests in arithmetic described above; namely,

- (1) unit tasks, each dealing with one new element,
- (2) standards of achievement for each task,
- (3) provision for self-directed study,
- (4) provision for self-appraisal of achievement and growth,
- (5) individual progress from task to task instead of term to term,

have been incorporated into all materials designed to aid in the individualization of instruction in the Detroit schools. Therefore, only brief accounts will be given of the other specific materials developed. In each, minor modifications have been made, as needed, to adapt the principles to the different subject-matter fields.

In the field of vocational education the unit task idea has been used effectively for many years. In drawing, in machine and wood-working shops, in bookkeeping and typewriting, in sewing and cooking, activities have always been divided into unit wholes and some provision made for progress at varying rates. With the advent of measurement and the spread of the ideals and principles of individualization, many types of work in the vocational education department have become more completely individualized than before. These changes consist for the most part in more scientific preparation of lesson sheets, or "job sheets," greater use of objective standards and tests as self-measuring devices, larger use of varying individual or group rates of progress.

In addition to the formal printed materials used by the agencies listed above, there are innumerable informal adaptations of individualized instruction to be found in the daily class work of very many teachers.

During September, 1924, the situation in Detroit in regard to

the formal individualization of instruction designed to develop educational skill is given in the following table:

Subject	Year Introduced	Grades	No. of Children	Name of Material
Arithmetic (4 operations with whole numbers)	1914	3-8	65,000	Practice tests in arithmetic
Writing	1918	3-8	70,000	Practice tests in handwriting
Reading	1921	1B-1A	18,000	Picture-Story reading lessons
Spelling	1922	1-3	42,000 Experimental	Progressive lessons in spelling
Language Usage	1923	5-8	10,500 Experimental	Remedial lessons in punctuation and capitalization Remedial lessons in grammatical forms

How far future development of practice tests will go, it is hard to prophesy. The work already done has revealed certain difficulties and defects and suggested desirable modifications. For one thing, it is apparent that an ideal course of study would consist of two parts: (1) a series of social projects in which there would be need for the use of fundamental skills in meaningful situations, and (2) a series of self-instructive, self-appraising practice exercises, so closely correlated with the project work that children could avail themselves of drill exercises as they became conscious of the need. The danger of the completely organized drill system, however perfectly individualized, is that both teachers and children will come to consider skills as ends in themselves. Under such conditions, the transfer value of the skill developed is small. While the danger is negligible for competent teachers who neither overemphasize the drill work, nor permit the use of drill exercises by children except in response to a felt need, it is a very real danger for teachers without vision. In many ways the problem is not "How to individ-

ualize school work?" but "How to secure teachers with the right points of view?" On the other hand, the unit-task idea, democratically administered by a competent teacher, solves very many of the distressing problems caused by individual differences and greatly increases the efficiency of teaching. Individualizing of mass instruction has come to stay, but in Detroit there is still room for many constructive contributions before a final standard form is attained.

VI. INDIVIDUAL WORK IN A VOCATIONAL SCHOOL

Vocational education is more often individualized than is regular, academic education. Commercial schools have long since abandoned wasteful class methods and allowed students to progress as individuals. Shop work of all kinds has lent itself readily to individual instruction. Often, however, the academic departments of vocational schools have been quite unrelated to the shops, and have held to the conventional class method of teaching.

Miss Mary Comings is head of the English department in the Vocational School at Madison, Wisconsin. She has individualized her English work completely and correlated it with the work in the shops. In the following brief account she tells something of the methods and results.

INDIVIDUALIZATION OF WORK IN THE VOCATIONAL SCHOOL AT MADISON

By MARY HUNTINGTON COMINGS
Vocational School, Madison, Wisconsin

Perhaps a word of explanation for those who are unacquainted with the problems of the vocational schools is in order at the beginning. All the educational misfits; all the boys or girls who are disgusted with the public schools or weary of the academic subjects; those that have been retarded by foreign birth, illness, or mental incapacity; as well as the alert, eager students who have been forced by economic necessity into employment—all these flock to our school. Some of them are of foreign birth, most of them are of recent alien extraction, and practically all of them come from illiterate homes. We have full-time, half-time, and part-time (those who come one day per week) classes, and the pupils shift continually from one group to another. In one class of fifteen scholars nine different grades were represented. Imagine attempting to teach *English*, the most despised of all the much despised academic subjects, to such a group! One Italian boy exactly expressed the attitude as well as the language acquirements of part-time boys when he said: "I don't need no help in *pronounceiation*."

Obviously, the old group methods simply would not work under such circumstances.

Last spring, therefore, I went to the instructors in woodworking, machine-shop, and auto-mechanics, to find out whether it would be possible to correlate the English with the shop work and so make a stronger appeal to these boys who are principally interested in *the job*. In these shop classes, the instructors were using textbooks, and all of them complained that their work was retarded by the boys who could not read. One instructor said he often had to spend most of his class period teaching reading instead of auto-mechanics.

Since I was already a convert to the individual progress method, I set about applying the principle, in part at least, to the problem in hand. Now, each boy receives a booklet made up of lesson sheets based on the shop texts. These sheets give a definite assignment in the book. The assignments are followed by questions on the content of the material studied. After each question, a space is left in which the pupil writes his answer. These lesson sheets thus combine reading for comprehension with practice in composition. As often as possible, thought questions not definitely answered by the text are introduced. Short tests of different kinds are used to give some variety to the work. Occasionally, a pupil is asked to compare his answer with one given in a sealed envelope attached to the lesson sheet. A sample lesson sheet is reproduced herewith:

Machine Tool Operation

Joseph O. Johnson

Mary Huntington Comings

Read, "To the Student," pages IX and X of the introduction.

Write the answers to the following questions in the space left after each question:

1. Do you want to become a first-class machinist?
2. What do you understand by "machine shop practice?"
Page 1 to Sec. 1, page 4. Read and then write the answers.
1. Why is this sometimes called "the mechanical age?"
2. Give three reasons why the machinist's trade is a great trade.
3. What does your author say about the job of "machine hand?"
4. What do you think about it?
5. In the machinist's job, which is more important, muscle or brains?
6. Of what interest is the statement on page three that "90 percent of the foremen have been promoted from the ranks of the machinists, and 90 percent of the superintendents have previously been foremen?"

Each pupil taking this course goes through the work on this sheet at his own rate. When he has completed it satisfactorily, he passes on to the next assignment sheet.

So far, no attempt has been made to diagnose individual difficulties, nor to make the work self-corrective. Even this partial application of the individual progress methods, however, has helped greatly. The ambitious pupil is not held back by the dullard or the slacker. The boy who enters school late does not disrupt the work of the class, nor is he handicapped by plunging into the middle of the subject. He can begin, like those who entered the first day, with the first lesson. This organization of the material makes it possible for the able and ambitious student to continue his work at home almost as well as at school. Best of all, the pupil is allowed some selection in the study he takes. In some of my classes in English, boys are working on five different subjects without in the least disturbing each other or adding to my burdens. As soon as possible, the number of correlated shop subjects offered for study in the English classes will be greatly increased.

This method gives much greater opportunity for close personal contacts between teacher and pupils. This contact is tremendously important when almost every pupil in the class offers a distinct, and often a very difficult, problem to the teacher.

Other schools are experimenting with the individual progress method; the State Board of Vocational Education is interested; and I personally believe this method is *the* coming thing in vocational education in the state of Wisconsin.

VII. INDIVIDUALIZING THE WORK OF RURAL SCHOOLS

While the Winnetka and Dalton Plans, the work of Miss Mackinder in London, that of Sutherland in Los Angeles, that of Courtis in Detroit, and that in the Madison, Wisconsin, Vocational School, have been directed toward the individualization of city schools, U. J. Hoffman in Illinois and R. N. Brown in Connecticut have been working out a plan for individual work in rural schools.

Under their plans, the daily program is greatly reduced, and the opportunity for individual work increased. Rural schools were once almost entirely individual in their methods. Then they took over the graded system of the city, with some of its advantages and many of its evils. But those which have adopted the plans presented by Mr. Brown and Mr. Hoffman have retained whatever advantages lay in the graded plan while wiping out most of the evils. Mr. Hoffman gives the general background for the change to individual work and illustrates briefly the way it is carried out in some of the rural schools of Illinois. Mr. Brown gives a typical Connecticut rural school program under the individual plan, describes in some detail how the work is individualized, and cites some of the results obtained in terms of pupil achievement.

I. INDIVIDUALIZATION IN ONE-TEACHER SCHOOLS IN ILLINOIS

By U. J. HOFFMAN

State Supervisor of Rural Schools, Illinois

During the decades 1870 to 1890, the forward movement in the one-teacher schools was to 'grade' them and follow a prescribed course of study. This was indeed a step forward. But when the attempt was made to conduct the work as it is done in the graded school, successful teaching and study become quite impossible.

To teach the pupils exclusively in classes in every subject every day required forty class periods daily. To avoid this great number, the plan of alternation was devised. This combines grades and requires the two years of work to alternate, reducing the class periods to thirty-two daily, an average of ten minutes per class. The teacher's time is all occupied in "hearing recitations." The expression states the fact accurately. To the teacher and to the pupil, the recita-

tion becomes the chief thing in the school. The higher grades spend one-fourth of their time on the recitation bench; the lower grades only about one-tenth; for the rest of the day they shift for themselves, except when the teacher takes time from classes which are reciting.

To make it possible for the pupil to spend most of his time in study under the direction and assistance of the teacher, to give the teacher time to do real teaching, that is, to help the pupil individually to learn, a program of procedure must be devised which will make these things possible.

In Illinois the following procedure has been recommended and is employed by the teachers who are courageous enough to depart from the traditional way, and who are so well equipped that they can help children to learn instead of merely following the routine of rushing through the daily program.

Four Schools in a Day

The First Session—A Reading School: From the opening until the mid-forenoon rest period, the whole school is engaged in reading. Spelling takes up fifteen minutes.

The Second Session—An Arithmetic School: Until noon, the whole school, except the first and second grades, is engaged in arithmetic.

The Third Session—A Language School: All, except the first and second grades, are engaged in grammar and language. Writing, physiology, and civics require twenty minutes.

The Fourth Session—A History and Geography School: All the school, except the first and second grades, are engaged in United States history, geography, and nature study.

This sequence of study gives the pupil the maximal amount of time for study and gives the teacher time for coaching the less capable. When a pupil has a class period, he may do his studying in that subject either before or after class or both before and after. If the class period comes in the middle of the session, his thoughts are not diverted from the subject by reciting in another subject. The teacher's mind is not diverted from the subject, though she has pupils of all stages of advancement in both individual and class instruction.

Class Instruction

The lower grades have class periods every day in every subject. This is necessary for they learn mostly from the teacher. The upper

grades have class periods only when the best can be done for them in that way. When the class period is omitted, the time is used by the pupils in study and by the teacher in giving them the assistance and direction which they need in order to study effectively. These pupils learn mostly from books. The teacher's best work is to help them to use books successfully. For most pupils, this can be done better by individual than by class instruction.

A class instruction period. When a class enters upon a new problem, all can be served at the same time. The problem is clearly presented to the class by the teacher—that is, the lesson is properly and adequately assigned. The teacher leads and does most of the work; *the children work with her*. She shows them what to do, how to do it, arouses their curiosity and interest, inspires them to do it, not for her, but for themselves.

The practice and coaching period. When the class period is omitted, the pupil has the whole session uninterrupted to do the work assigned. The teacher is free to help those who need help at the time they need it, when they are trying to do the work and fail. Most of the pupils have learned how in the class period. All they need is practice or time to complete the task. If any did not learn how in the class instruction period, the teacher shows them individually and does not waste the time of those who need not be shown. She encourages and guides the talented and skillful, but gives the slow and awkward the help which they need.

The discussion period. After several days, when all have solved the problem or mastered the lesson under the guidance of the teacher, the class meets to talk over what they have done. Additional information is obtained from each other and from the teacher. Errors are corrected; the whole problem is reviewed.

The test. When the pupils have mastered a subject or solved a problem, they want to be tested to see whether they know what they think they know or can do what they think they can do. This can be done to the best advantage when the class is assembled for the purpose. The pupil is not tested in the instruction, study, or discussion periods. In these, he is not frightened, but encouraged to reveal his lack of knowledge or skill. The test is given to prove to himself that he can do what is required, not to prove to the doubting teacher that he has done what he was told to do.

Essential Equipment

As the one-teacher school has few in a grade and is not complicated as is a system of graded schools, elaborate equipment is not necessary; indeed, it would prove a burden. For individual instruction, good textbooks and a suitable library only are essential. Reference books, such as Compton's *Picture Encyclopedia* and *The World Book*, containing an abundance of material on all subjects and adapted to all stages of advancement of pupils, are very necessary to supplement the texts.

The formal school readers are used only in the lower grades to teach the mechanics of reading. They may also be used in the upper grades for drill and for literary interpretation. For the most part, each pupil spends the reading session in reading for himself the library books which appeal to him for what he can learn from them. History stories, geography stories, nature study, general information, and literary books are utilized to increase the pupils' vocabulary and knowledge, as well as to form the habit of reading.

The Organization and Daily Program

Two programs are herewith presented. The first shows how the school is organized for exclusively class instruction. The second shows how it is organized to give both individual and class instruction. The notes explain what may not be clear in the diagram.

DAILY PROGRAM FOR EXCLUSIVELY CLASS INSTRUCTION

Grades	Begin	Time	Subjects	Grades	Begin	Time	Subjects
All	9:00	10	Gen. Exercises	8	1:00	10	Gram.
7-8	9:10	10	Reading	7	1:10	10	"
5-6	9:20	10	"	6	1:20	10	Lang.
4	9:30	10	"	5	1:30	10	"
3	9:40	10	"	3-4	1:40	10	"
2	9:50	10	"	1-2	1:50	15	Read. & Lang.
1	10:00	10	"	7-8	2:05	15	Physiology
All	10:10	15	Spelling	All	2:20	10	Writing
All	10:25	15	Rest	All	2:30	15	Rest
8	10:40	10	Arith.	1-2	2:45	10	Const.
7	10:50	10	"	3-4	2:55	10	Nature
6	11:00	10	"	5-6	3:05	10	Geog.
5	11:10	10	"	5-6	3:15	15	"
4	11:20	10	"	7-8	3:30	15	"
3	11:30	15	"	7-8	3:45	15	Hist.
1-2	11:45	15	Read. & Num.				
All	12:00	60	Noon	All	4:00		Dismissal

DAILY PROGRAM FOR INDIVIDUAL AND CLASS INSTRUCTION

Grades	Begin	Time	Subject	Inst.	Notes
All	9:00	10	Gen. Exercises		
(4-5) or (6-7-8)	9:10	20	Reading	Indv.	1
1	9:30	10	"	Class	
2	9:40	10	"	Class	
3	9:50	10	"	Indv. or Class	
(4-5) (6-7-8)	10:00	15	"	Class	2
All	10:15	15	Spelling	Class	
All	10:30	15	Rest		
4-5-6-7-8	10:45	20	Arithmetic	Indv.	3
1-2	11:05	10	Read. & Num.	Class	4
3	11:15	10	Num.	Class	
4-5-6-7-8	11:25	35	Arithmetic	Class	5
All	12:00	60	Noon		
(3-4) 5-6-7-8	1:00	20	Language	Indv.	6
1-2	1:20	10	"	Class	7
(3-4) 5-6-7-8	1:30	40	"	Class	8
7-8	2:10	10	Physiology	Indv. or Class	9
All	2:20	10	Writing	Class	10
All	2:30	15	Rest		
1-2	2:45	10	Const.	Class	11
(5-6) (7-8)	2:55	20	Geog.	Indv. or Class	12
(3-4)	3:15	10	Nature Study	Class	
(5-6) (7-8)	3:25	35	History	Class or Indv.	13
All	4:00		Dismissal		

NOTES ON THE SECOND DAILY PROGRAM

1-2. These grades are grouped into two classes. Individual differences can be dealt with by individual instruction and drill. Time, fifteen minutes, is provided daily for class instruction. Only one group a day should have class instruction. If neither group has class instruction, the fifteen minutes can be distributed to the other class periods. The third grade can also often be better served by individual than by class instruction. The ten minutes can then be utilized for that.

3-5. Alternation or grouping other than by grades is not feasible in arithmetic. Twenty minutes is utilized for individual instruction. This is ample time for three grades and leaves thirty-five minutes for class instruction for two grades. The third grade can often utilize its ten minutes in doing exercises under the direction of the teacher.

4. The number work of the first and second grades can be done in conjunction with their reading. They can learn to count, to measure, and to read numerals.

6-8. The oral language work of the third and fourth grades can be alternated and the classes combined. Class instruction is necessary

oftener in language and grammar than in other subjects. Probably only one group a day should have individual instruction. Twenty minutes is probably more than is necessary. The time saved can be distributed to the classes which need more than their share of the forty minutes for class instruction.

7. Language should be given in conjunction with reading.

9. Physiology and civics are studied a half-year each, and the seventh and eighth year's work alternate. Either class or individual instruction can be utilized in the ten minutes assigned.

10. Writing and drawing may be had on alternate days.

11. The first and second grades have construction work and may be dismissed any time after this exercise.

12-13. Neither the (5-6) group nor the (7-8) group should have class instruction in both geography and history the same day. At most, they should have a class period in each subject on alternate days. The (3-4) grades can have nature study together each day, or if separated, can have class instruction on alternate days.

The geography and history session should be used to study the text and do exercises. The supplementary reading for these subjects can be done during the reading session.

2. INDIVIDUALIZATION IN ONE-TEACHER SCHOOLS IN CONNECTICUT

By R. N. BROWN

Superintendent of Schools, Thomaston, Connecticut

The advantages and disadvantages of the individualization of school work are amply presented elsewhere in the *Yearbook*. This contribution, therefore, will be confined to a report of the work in individualization as it is actually being carried on in our one-teacher schools after three years of experiment.

The Program

The following program is in use in one of our eight-grade, one-room schools. In a *majority* of our one-teacher schools one or two grades are not represented and modification of the program is made accordingly.

Time	Grade	DAILY PROGRAM	
		Classes	Individual and Class Instruction
9:00- 9:05	All	Opening	Reading
9:05- 9:10	All	General Directions	Daily
9:10- 9:25	I	Reading	Daily
9:25- 9:35	II	Reading	Directed study or
9:10-10:15	III-VIII	Reading	class exercise as desired
10:15-10:30	All	Spelling Dictation and Penmanship	Daily
10:30-10:45	All	Supervised Play	Daily
10:45-11:00	II	Arithmetic	Individual Help or Drills
11:10-11:50	I	Arithmetic	Daily
10:45-11:50	III-VIII	Arithmetic	Directed study or class exercise as desired
11:50-12:00	I	Reading	Daily
12:00- 1:00	All	Noon Recess	
1:00- 1:10	All	General Directions	Language
1:10- 1:20	I	Reading	Daily
1:20- 1:35	I-II-III	Language Stories	Daily
1:00- 2:30	IV-VIII	Language	Directed study or socialized recitation as desired
2:30- 2:45	All	Supervised Play	Daily
2:45- 2:55	II	Reading	Daily
2:55- 3:05	I	Reading	Daily
2:45- 4:00	III-VIII	Social Studies	Directed study or socialized recitation as desired

NOTES. The term "Directed Study" rather than the term "Individual Instruction" has been used in this program to emphasize this phase of the work with the teachers. In actual practice Individualization means directing the study of the class or individual as the need arises, *plus* a record of the individual progress of each pupil.

As will be noted, there are four general periods each devoted largely to the fundamental subject emphasized, viz., reading, arithmetic, language and grammar, and the social studies.

The first general period of the day is devoted to reading, as this is the most important subject. During this period, each pupil has sixty-five minutes for silent reading on days when there is not a class exercise. If fifteen or twenty minutes are used for class work, he still has at his command fifty minutes for silent study.

The same general plan is followed in the arithmetic period. The long uninterrupted period offers many opportunities for directing the study of the individual.

The third period, devoted largely to language work, provides ample

time for directing the study of the school in classes or individually or for the development of the social recitation, either with one group or, as is more often the case, with the entire school.

The fourth period of the day devotes seventy-five minutes to the "social studies." Particular emphasis is placed on socialization during the afternoon program, with an attempt to handle the entire school as a group.

The program provides for four periods of reading for first-year pupils and two periods for the second-year group. This arrangement has been found very successful, as it scatters the effort in these groups throughout the day and makes for more intense help from the source from which these groups learn most—namely, the teacher.

Special subjects, such as hygiene, nature study, etc., are handled in the "social studies" period as a special socialized class once each week.

General Organization of the Various Subjects

Reading. The work in reading in Grades I and II is carried on purely as a class exercise, as these groups learn principally from the teacher.

In the past, much of the school reading period has been spent with oral work, in spite of the fact that silent reading ability is much more valuable to the majority. With this in mind, we have placed the emphasis on silent reading, giving much direction in methods of study in groups and individually.

In order to correlate the reading with the other subjects and to cover as broad a field as possible, each school is provided with a set of books from a school circulating library large enough to supply each child above Grade II with a different book. These sets of books are changed from school to school as often as necessary, usually about once in two months. If single copies of different books are purchased in sufficient number to provide one book for each child for the normal enrollment of the town, and these arranged in sets as suggested below, a large amount of material becomes available for all the one-teacher schools for approximately the same amount as was formerly expended in supplying each child with the same reader. The advantages of such a library for every child are obvious.

The books in the library mentioned are classified under five headings, viz., literature, history, geography, biography, and nature, with an equal amount of material, as far as possible, for Grades III and IV, V and VI, and VII and VIII.

During the "General Directions" period the teacher gives any

general instructions or directions that are needed. She is then free to carry on her class instruction with Grades I and II while the rest of the school read silently. Immediately following her work with Grades I and II, the teacher is free to devote the remainder of the reading time, or about forty minutes, to individual or group work as desired. This work takes many forms. The teacher, while passing from pupil to pupil, may hear those read orally who are in need of this type of work, but having them read on in their individual books from their present point of progress or she may assist in a careful study of some particular work that needs especial interpretation, selecting and discussing with the pupil various situations, characters, general make-up of the book, plot, etc. She may discuss formally with the individual child the book being read or question him to test his retention.

When a book has been read, each child is tested by the teacher on that book, either orally or with written thought-provoking questions. He is also required to make out a formal book report in writing, which is filed as a record of books read. At frequent intervals, a socialized reading period is carried on, with oral talks, stories, dramatization, oral reading of selected passages, etc.

The teacher's part in the reading period is very important, as she becomes the guide and inspiration to each pupil. Each pupil reading his own book and often carrying on his discussions with the teacher, individualizes the work. The best of relations exist between the teacher and the pupil, because of this mutual interest. This phase of the work cannot be overemphasized.

On the completion of a book in the literary classification, the pupil is required to select his new book from one of the other groups. This method is followed until the pupil has read one book from each classification. He is then allowed to return to the literary group and repeat the cycle.

Spelling. The Washburne *Individual Speller*,¹⁵ with the method suggested in the *Teacher's Manual* accompanying it, is used in all schools. Briefly, the method used is as follows: At the beginning of the year, the words for the entire year are dictated to the class.

¹⁵ C. W. Washburne, *The Individual Speller*, World Book Co., Yonkers, N. Y., 1924. See also "A spelling curriculum based on research," *Elementary School Journal*, June, 1923.

These are corrected by the teacher. The words misspelled by the pupil become his spelling list for the year, with such additions from his written work as are found necessary. During the spelling period, the pupils are divided into groups of two, and each pupil dictates the words of the day (five or more) to his partner. Frequent tests are given, and words misspelled in these tests are retained on the pupil's list for further study.

Penmanship. Early in the year, each pupil is tested by the Ayres' Scale for Speed and Quality. The results of this test are posted on a chart and dated. Following the test, the work is taken up individually with the pupils and their difficulties are diagnosed. The same scale is used for frequent testing of penmanship and other written papers, and the results are posted. In this way a continual incentive for better work is put before the pupils. The problem of penmanship improvement is an individual one, and this plan makes good use of the teacher's time.

Arithmetic. When the time for arithmetic arrives, the teacher takes time to see that all are properly started on their work, to encourage the diligent, and to persuade the shiftless to greater effort. Then the teacher may take up the work with those groups or individuals ready for new steps, teaching the new process and making careful explanation of assignments. The teacher may also use this time for group or individual discussion of work already completed. Much time is spent in assisting pupils with their individual difficulties, questioning them as they study, directing or suggesting methods of study, testing those ready for tests, etc. The object is at all times to teach the studying of arithmetic, not to hear recitations.

The *work of the afternoon* is socialized as far as possible. Some individual work is carried on with the written and technical work in language and grammar and with the factual side of the social studies. Much has been written on conducting the socialized period. The conducting of this type of work in the one-teacher school is very similar to that in the grade school, with the exception that, in so far as it is feasible, the whole school is included in the work on one problem or project and each grade or group contributes according to its ability or stage of progress.

It is usually planned to have individual work with *directed study*

in language and grammar on days when a socialized period is held in the social studies, reversing the order on other days. Socialized language work can well be correlated with any subject in the curriculum. The socialization of the afternoon program in the ways briefly mentioned provides an opportunity for the pupil development so badly needed in one-teacher schools. This phase of work should not be neglected.

Materials

The regular commercial textbooks are used in all the work. This can be done by careful planning and the use of single copies of supplementary texts for reference and extra assignment. Lack of especially constructed textbooks for individualization should not be a stumbling block in the way of individualizing the work of the schools. Modern texts can, and do meet the conditions if reasonable care is used in their selection.

Records

In order not to overburden the teacher with a mass of records and at the same time to stimulate the pupil by having his record always before him, each pupil keeps at his seat an individual assignment book and progress sheets in loose-leaf covers, which are in a sense a list of goals for the subject as indicated by the course of study. Part of a sample sheet for arithmetic follows.

ARITHMETIC IV

Long Division Types		O.K.	O.K.	O.K.
a. Without Remainder	$23 \overline{)46}$	9/12/24	11/1/24	1/4/25
b. With Remainder	$31 \overline{)57}$			
c, d, e, f, g, h, i, g.				
Review Previous Fractions				
Reduction of Fractions				
Types a, b, c, d, e				

(Remainder of sheet omitted, but follows the same form.)

As will be noted, opposite each topic three parallel columns are provided. When the work of any topic is taken up for the first time and the pupil attains a rank of eighty percent in an oral or written test, he is given O.K. in column one. About a month later a review is given, and if a similar rank is attained, an O.K. is given in the second column. Later in the year, the work is again reviewed, and an O.K. is given for proficient work. Each O.K. is dated, as 9/12/24, to keep a check on the time which has elapsed between tests.

The pupil's assignment book is an ordinary notebook. At the left of each page the assignment is written and in general corresponds to the topic on the record sheet. At the right side of the page the pupil keeps his record of work as given him by the teacher. If his work is B or better, he knows he may go on to the next topic assignment; if below that mark, the teacher gives him supplementary assignments.

The assignment books are kept as nearly as possible a week in advance of the pupils. The teacher keeps her own assignment book and pupils copy their assignments or have them dictated.

In order to facilitate the work of the teacher in planning for her work, each pupil doing individual work passes to the teacher, at the close of the day, a slip of paper stating topics completed. Using these slips and her own assignment book, the teacher can readily plan her own work for the next day classwise and individually. In her own plan book and class record book she has a further check on the child's report.

The keeping of the record sheets and assignment book by the pupil is a powerful motive for good work, as each is forced to watch his own progress. The competitive element in motivation enters when one member of a group advances a little more than his companions. This often leads to self-imposed work at home and after school hours.

The record system is not a burdensome one and can readily be used by any conscientious teacher.

Some Results

A few results may be of interest. It is to be borne in mind that these results were obtained from a comparatively small number of pupils, but they indicate some of the possibilities.

Charters Language Test

Median, all Grades III to VIII, 36.

Charters Standard 8th grade
median, 22.2

Woody-McCall Arithmetic

Median, all grades, 33.

Woody, Eighth-grade median, 29.3.

Comparison of a selected group of pupils under the individual instruction plan with the same number under class instruction, all

with practically equal chronological ages and approximately the same I. Q., shows that pupils under individual methods had an average achievement of two years, one month, over those under class organization.

In schools under this plan for two years, forty percent of the pupils did more than the normal grade requirements. Those pupils whose history would be regarded as placing them in the retarded group under class methods improved greatly in progress under the individual method. Some of these pupils completed a normal year's work because of the individual plan, while others, though they did not complete a full year's work, were able to start the second year at the point completed at the close of the previous year and were enabled to do two years' work in three years of continuous progress. They were thus saved the discouragement of the repetition of the grade.

The above evidence of results is of course not conclusive, but it does offer some indication of the possibilities in this type of work. Better results can no doubt be obtained as better methods of organization are developed.

C. SUMMARY

Two main types of adjustment to individual differences have been described: one attempts adjustment without breaking up the basic class organization; the other provides for strictly individual progress in the common essentials, and with it, necessarily, much individual instruction.

Illustrating the first type are several varieties of experiments. Holmes, in Mt. Vernon, New York, has brought down to date the Batavia plan of coaching and encouraging laggards. Wirt, through the Gary organization, has made it possible for children to spend double time on subjects in which they are slow, at the expense of auditorium, shop, or play periods; and he has provided Saturday school, in which the instruction is largely individual, and summer school, for children who wish to make up time. Gray describes the intensive study of problem cases—study of the scientific sort which is needed under any plan of individual or class instruction. Courtis and Sutherland illustrate the highly popular scheme of attempting to classify children into homogeneous groups for purposes of instruction—it has been done in Detroit and Los Angeles about as well as anywhere; it is interesting that in other parts of this *Yearbook* these same men produce evidence to show that it is merely a half-way measure, better than nothing perhaps, but not an adequate way to fit schools to individuals. Reavis, of the University of Chicago High School, and Miller and Leonard, of the Wisconsin High School, describe the method of individualization through differentiated assignments—holding children to the same rate of progress by giving the brighter children longer, harder, or richer assignments—extra work to fill the extra time. This kind of individualization approaches rather closely the second main type, that of breaking the class lock-step entirely.

The first fully organized plan of breaking the lock-step was that of Frederic Burk, late President of the San Francisco State Teachers' College; his technique of self-instruction texts, strictly individual progress in the common essentials, and provision for some compensating socialized activities, has been the source of a number of other experiments. The Winnetka technique is a direct outgrowth of Burk's, adapted to city school systems, and emphasizing perhaps a little more strongly the group and creative activities.

The Dalton Plan, most popular of all, differs from Burk's and the Winnetka plan chiefly in the fact that it has produced and called for almost no new text or curriculum materials, but using what it finds at hand, has done much to free the lives of the children and adapt schools to them. Jessie Mackinder, in London, on the other hand, has individualized instruction through a wealth of ingenious materials; using these, beginners, in large classes, teach themselves reading and number, each working by himself and at his own rate. Sutherland, in Los Angeles, arrived at individual instruction for all children as a result of experiments with maladjusted children. He went through the stage of bringing laggards up to class level, and used intensive study of problem cases; as a result, he worked out a technique, not unlike Burk's, for individual progress and self-instruction. The gradual individualization of the schools of a great city is illustrated by Courtis of Detroit—one of the pioneers in the measurement movement, he early discerned the need for varying amounts of practice and varying amounts of time for varying and variable children. Detroit is not yet fully individualized, but is probably more nearly so than any other metropolis.

The application of individual methods to the academic work in a vocational school is described by Miss Comings of Madison, Wisconsin. Her work in English is intimately correlated with the shop work, and is purely individual. Hoffman, in Illinois, and Brown, in Connecticut, on the other hand, have adapted individual methods to rural schools; they have done this by simply changing the typical, broken-up, miscellaneous program to four long periods, in which most children are studying individually, part of the time under supervision, and in which a few children may be doing class work part of the time, with the teacher. Their method, like the Dalton Plan, involves no new materials and no change in the conventional curriculum.

The various experiments described are reflections of the almost universal recognition of the failure of the conventional class lock-step method of schooling. They illustrate the general awakening to the necessity of fitting the schools to the children for whom schools exist.

In these efforts—some primitive, some mere half-way measures, some the result of scientific research and long preparation—may be

seen the dawn of a new era in education. It is, at best, an early dawn; far more light will be forthcoming during the next generation. But already one can begin to see the day when each child will be recognized as a living human being, differing by right and by necessity from every other human being—differing in his needs, differing in the contribution he can make to mankind, yet a member of the human organism, who must co-ordinate his life with the lives of his fellow members.

SECTION III

STATISTICAL RESULTS OF EXPERIMENTS WITH INDIVIDUALIZATION

While one or more of the various plans which have been described in Section II may seem alluring, and while each one represents long, thoughtful effort to solve the pressing problem of fitting schools to individual differences, it is not enough at this time of a dawning science of education merely to work out a plan, no matter how ingenious. Such plans are only hypothetical solutions of the underlying problem, until careful experimentation and adequate statistical results prove or disprove their claims. Fortunately, considerable experimentation of a scientific nature has been done by several of those whose plans have been described, and by other persons as well. In this section of the *Yearbook* nine specific questions on the effects of individual instruction are considered in the light of such statistical data as are at present available. First, however, there is a description of the sources of these data—the conditions under which the data have been gathered. Then, after the data have been brought to bear upon the nine specific questions, their general validity is discussed.

I. THE SOURCES OF DATA

The sources of the data are various. In Detroit, the Bureau of Research has for years gathered evidence of all kinds and has conducted many experiments. Only samples of the mass of material accumulated in Detroit are presented herein; many of the Detroit results have never been published; typical results, however, are given in answer to certain of the questions raised in this part of the *Yearbook*. The wide variety of children in Detroit and the care with which experiments have been conducted and tabulated, make these results highly significant.

In Los Angeles, A. H. Sutherland, as Director of the Bureau of Research, made a number of intensive studies, for the most part heretofore unpublished. The children with whom Sutherland has dealt have been largely the misfits of all kinds in all parts of the city. He has, however, additional studies in a typical city public school (the Sixty-First Street School), in a district largely composed of such people as carpenters, plumbers, and small tradesmen.

The San Francisco State Teachers' College has for a dozen years kept careful records of each child's progress under individual instruction. As early as 1915, Burk published, in his Monograph C, tables remarkably similar to those given in this *Yearbook*. This shows a constancy of this type of result over a period of nine years. The children who attend the San Francisco State Teachers' College Training School are selected to this extent: no definitely subnormal children are admitted, and a number of unusually intelligent families send their children from various parts of the city to this school. No tuition is charged, however, and the majority of the children come from the modest homes and flats in the neighborhood of the school itself.

Jessie Mackinder, in London, is one of the very few European experimenters to have subjected her experiment to objective measurement. She has used Ballard's standardized tests to compare her product with that of other London schools. Her school is in a poor district; many of the children come from 'homes' which consist of one room for the entire family. The school itself has only a walled-in courtyard for play, and is a typical, ugly building, such as was built in large cities in many parts of Europe and America two or

three decades ago. The classes are over-crowded—forty-five, and even fifty, little 5-, 6-, and 7-year-old children to each teacher.

Part of the experimental evidence, then, is gathered from big cities—Detroit, Los Angeles, San Francisco, and London—and covers a wide range of children's abilities. The investigations of Horn and of the Winnetka Public Schools, on the other hand, have been in smaller places.

Ernest Horn, at the University of Iowa, and various graduate students under his direction, have carried out a series of experiments and observations over a period of seven years as to the possibilities and results of individual work. For example, Horn repeated some of Burk's experiments with the express purpose of determining their reliability, and confirmed Burk's results. Under his direction, McCrory made the study of the results of teaching spelling individually which is reported farther on in this section.

The Detroit and the Winnetka experiments have been so extensive as to warrant a somewhat fuller statement at this point concerning the conditions under which the data later to be presented have been attained. Mr. Courtis first describes these conditions for Detroit and also briefly summarizes the main outcomes.

A. NATURE OF THE INVESTIGATIONS AT DETROIT AND SOME CONCLUSIONS

BY STUART A. COURTIS

Detroit Teachers College

Detroit has had careful scientific experimentation in education since 1910; a Bureau of Instructional Research since 1914. From the beginning, the function of the measurement work was set as the improvement of instruction, and although in the early days much time was given to the determination of the existing efficiency of teaching, nevertheless from the first there have been repeated efforts both to change for the better the existing methods of instruction, and to measure the effects of such changes as were made.

These early comparative studies led to the formulation and adoption of a number of policies; namely, individualization of drill

in the tool subjects, limitation of training, socialization and vitalization of subject matter, use of subject matter as means not ends, and use of surplus time in enriched educational activities rather than in winning double promotions. Once policies were adopted as guides, experimental work was directed more to appraisal of the success with which the policies were being carried out than to appraisal of merit of the policies themselves.

Further, the early work in Detroit was done at a time when both tests and testing technique were developing. Very many of the early studies were imperfect and the results, while of value at the time, were not considered to be worth saving. Also, almost all the work in Detroit was practical in character; that is, it was organized and carried through by regular school agents as a part of routine work. Essential conditions were thoroughly safeguarded, but more attention was given to making experiments function than to collecting and organizing the resulting data.

As a consequence, it is now quite impossible to tell in an adequate fashion the story of experimentation in Detroit. Very many records are buried in discarded files. Many more lack the completeness of minute detail which would be necessary to give them scientific value. What has been done, therefore, is to select a number of typical studies as indicative of the trend of experimentation and to give with these the general conclusions reached. Early studies have been taken from private records, from superintendents' reports, or from the files of the department; more recent studies from published reports to which references are given and from which adequate statement of conditions of experimentation may be derived.

In interpreting certain of the Detroit results a further and very important consideration must be kept in mind. Changes in the efficiency of instruction have been due to the operation of many causes, not one. Without very elaborate experimentation, the determination of the effect of *merely* the individualization of instruction is entirely out of the question. Indeed, one of the studies presented makes clear the fact that individualization of instruction involves an essential pupil-teacher relationship as well as a form of classroom administration. Consequently, the studies reported present measurements of the total changes brought about in Detroit. Some of the other factors to which consideration must also be given are (1)

objective definition of goals, (2) improved methods of classification of children, (3) measurement of the results of teaching, (4) improved and more extensive teacher training, (5) improved methods of supervision, (6) democratization of instruction, otherwise known as "project teaching." However, all of these are directly or implicitly associated with Detroit's program for the individualization of instruction, so that, in a large sense, the effects described may be justly ascribed to the general movement as a cause.

The studies selected as typical of the lines of investigation pursued in Detroit lead to the following conclusions:

(1) Even in the very first grades where the situation is less complex than in the higher grades, in reading, the X-Y-Z plan of ability grouping does not eliminate enormous variation in individual achievement and progress, nor prevent extreme overlapping from group to group, or grade to grade.

(2) Even within groups selected by group mental tests as of equal mental capacity, there is a very wide range in individual rates of progress as soon as opportunity for them is provided.

(3) Practical administration of individualized lessons in handwriting in Grades 3B-4A on a large scale results in very similar range of rates of progress in all groups and grades.

(4) Individualization of instruction saves time for the able by limiting drill to just the amount necessary to achieve standards, and for the handicapped by enabling them to master thoroughly each item before passing to the next.

(5) Individualization of instruction improves efficiency through increasing the number of children who profit by instruction and decreasing the number who fail to gain and the number who are affected adversely.

(6) The net result of the benefit of individualization of instruction is to increase the actual average efficiency of achievement of the group as a whole.

(7) The increase in efficiency of teaching in the case of first-grade reading may result in a first-semester class having an achievement higher than that of the regular third-semester class. In other words, there are possibilities of very great improvement in the efficiency of mass instruction.

(8) The benefits of individualized instruction are not restrict-

ed to a particular subject. The general principles may be applied in all fields, and measurement of each new application that is made confirms the conclusions reached in other fields.

B. NATURE OF THE INVESTIGATION AT WINNETKA

BY C. W. WASHBURNE

The most complete statistical investigation of the results of individual instruction and promotion is perhaps that which was financed by the Commonwealth Fund in New York. It was a self-survey of the Winnetka Public Schools during 1923-24, with the aid and advice of Dean William S. Gray of the University of Chicago. A complete record of the investigation is about to be published in monograph form.¹

A research worker, Mabel Vogel, who had been trained under Burk, who had taught in Winnetka, and who had visited such European experiments as those of Miss Mackinder and Miss Bassett in London and Dr. Decroly in Belgium, was employed for the year to carry out the investigation, under the general direction of the Superintendent of the Winnetka schools and Dean Gray. She was given adequate clerical help. She and her assistants, among other things, gave some 28,000 intelligence and achievement tests to the children in Grades III to VII in the Winnetka schools and in certain other schools with which Winnetka was to be compared.

Considerable care was exercised in the selection of these other schools. A public school system in a suburb with almost exactly the same population and social composition as Winnetka was selected. A progressive experimental private school, long known for the high standard of its socialized and self-expressive activity, was chosen as representing certain of the ideals which the Winnetka schools seek to attain. And the laboratory school of a large university was also selected for comparison, since it, like the Winnetka schools,

¹ Washburne, C. W.; Vogel, Mabel; and Gray, Wm. S. *Results of Fitting Schools to Individuals*. Supplementary Monograph, Journal of Educational Research, Public School Publishing Co., Bloomington, Illinois, 1925.

attempts to embody the most recent results of scientific research in the educational field and to carry out scientific experiments within the school itself.

In comparing Winnetka with these other three schools, every possible safeguard was taken to guarantee the entire fairness of the various studies. This even went to the extent of employing a disinterested outside witness to be present at the time tests were given. All studies were made by the same person in such a way as to yield strictly comparable results.

II. THE DATA

The results of the Winnetka studies and those of each of the other studies have been brought to bear on these nine questions:

I. Does the attempt to group children by ability result in adaptation to individual differences?

II. Does individual work save time?

III. Does individual work increase or decrease socialized and self-expressive activities?

IV. Does individual work put children through school too fast?

V. Does individual work decrease retardation?

VI. Is individual instruction more or is it less effective than class instruction in teaching tool subjects?

VII. Does individual instruction cost more than class instruction?

VIII. Does individual instruction place too heavy a burden on the teacher?

IX. How does individual work in the elementary school affect pupils' efficiency in the high school?

I. DOES THE ATTEMPT TO GROUP CHILDREN BY ABILITY RESULT IN ADAPTATION TO INDIVIDUAL DIFFERENCES?

Many schools are attempting to solve the problem of adjustment to individual differences by grouping the children in supposedly homogeneous ability-groups, then giving each group the type of instruction that would presumably be best fitted to the needs of the children who compose it. The popularity of this movement makes it highly important to know accurately whether such ability grouping can accomplish its object—whether children can be classified in homogeneous groups; whether groups which appear relatively homogeneous at the beginning remain so during instruction; and whether the same instruction and time are required by all children within each group.

Fortunately, considerable evidence is available. The Detroit public schools have used ability grouping for several years and have furnished accurate data on certain aspects of this question. In Los Angeles additional studies have been made. The records of the San Francisco State Teachers' College throw valuable light on the subject. The Winnetka Public Schools have contributed their quota of evidence. And Ernest Horn, of the University of Iowa, has gathered material of high significance.

A. DATA ON ABILITY-GROUPING FROM DETROIT

By STUART A. COURTIS
Detroit Teachers' College

The Detroit results prove conclusively that, whether instruction is individualized or not, children of each level of intelligence, as shown by scores in mental tests, have a very wide range of achievement and very different rates of progress in any specific skill.

In support of this conclusion, the following table presents a percentage distribution of the scores in the Detroit Group Vocabulary test of children in the X, Y, and Z sections of the first three half grades, January, 1922², showing wide range of achievement within

² E. F. Oglesby. "A study of achievements in reading of X, Y, Z groups." *Detroit Journal of Education*, April, 1922, p. 59.

each group and much overlapping from group to group, and from grade to grade.

TABLE 1.—DISTRIBUTION OF SCORES ON GROUP VOCABULARY TEST
(Based on scores of 1050 pupils in 42 schools)

Score	Grades and Groups								
	1 B			1 A			2 B		
	X	Y	Z	X	Y	Z	X	Y	Z
30	22	8		44	16	3	54	29	14
25	25	12	2	26	17	4	28	12	15
20	18	23	3	13	17	15	13	19	19
15	15	17	12	8	17	23	4	18	17
10	10	18	26	5	14	25	1	13	11
5	10	16	33	2	15	18		8	15
0		6	24	2	4	12		1	9
Medians	24.1	17.9	8.9	28.3	20.3	14.0	30.6	24.7	19.4

The table is to be read as follows: in the 1B grade, X group, 22 percent of the children made a score of from 30 to 34 (in the Group Vocabulary Test based upon the first-grade work in reading), 25 percent made a score of from 25 to 29, etc.

In one of the experiments with individualized material in reading, the intelligence ratings of the children by the Psychological Clinic were available for study. The scheme used by the Clinic, based upon Detroit First-Grade Group Intelligence Test, is as follows:

<i>Letter Rating</i>	<i>Position in Group</i>	<i>Letter Rating</i>	<i>Position in Group</i>
A	Highest 8 percent	C—	Next 18 percent
B	Next 12 percent	D	Next 12 percent
C+	Next 24 percent	E	Lowest 8 percent
C	Middle 24 percent		

The time required by the individual children to finish the series of lessons ranged from 12 days to 77 days. In the figure, each vertical line represents a child. The length of the line shows the number of days required to finish the lessons. To save space the C+ and C— groups are omitted. The other children are shown in groups. Note that for the children in the A group, the total time required to finish ranges from 15 to 53 days. Similar variation occurs in the other groups. In terms of average time required to finish (horizontal lines) the A group has a lower average (midscore) than the B group and the B group a lower average than the C group. The significant detail, however, is the range within each group. Neither the ex-

ceptional children nor any of the others form a homogeneous group which learn at the same rate.

The same facts are shown, perhaps more forcibly, although less graphically in Table 2, which is based upon 116 first-grade children. The table is to be read as follows: 33 percent of the 15 children rated A finished the series of lessons in from 10-19 days, 20 percent, or 3, children finished in 20-29 days, and so on. The vertical columns show the percentages of children in each group which finish in a given period. Horizontal comparisons show the relative chances

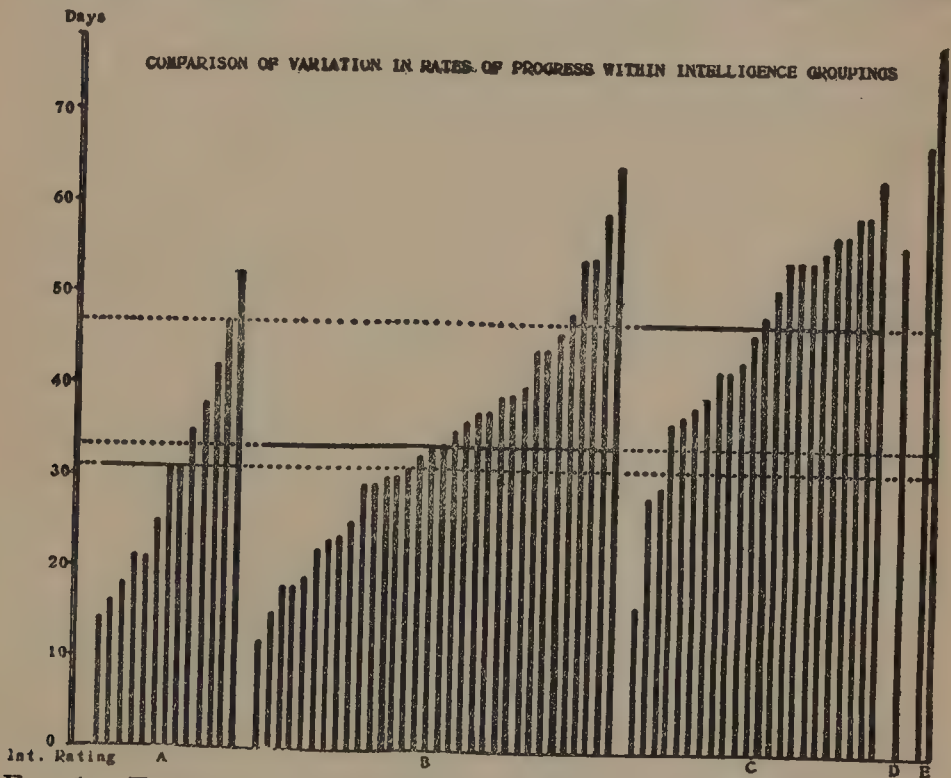


FIG. 1.—TIME IN DAYS REQUIRED BY PUPILS OF DIFFERENT INTELLIGENCE RATINGS TO COMPLETE CERTAIN WORK IN READING

of children of different intelligence levels to finish in a given time. Thus an A child has 33 chances in a hundred of finishing the series in less than 20 days, a B child 16 chances, a C child 3 chances, and so on.

Intelligence is thus a factor determining progress, but by no means the only factor, so that grouping on an intelligence basis is only a partial solution of the problem of individual differences. A

complete solution is furnished by individualization of instruction where any child, whether his intelligence is A, B, C, D, or E, may go as fast or as slowly as his condition at the time demands.

TABLE 2.—RELATION BETWEEN INTELLIGENCE AND TIME REQUIRED TO FINISH A SERIES OF INDIVIDUAL LESSONS IN BEGINNING READING

(Based upon the records of 116 B-1st children. Numbers express percentages of the intelligence groups.)

Days Required to Finish	Intelligence Ratings			
	A	B	C+, C, C—	D, E
10-19	33	16	3	
20-29	20	19	12	
30-39	27	36	34	
40-49	13	16	20	
50-59	7	10	21	33
60-79	0	3	10	67
Total	100	100	100	100
Cases	15	31	67	3

In further support of the conclusion, Table 3 shows the number of lessons in handwriting completed successfully at the end of the first six weeks of the February-June semester, 1924, grades

TABLE 3.—INDIVIDUAL PROGRESS IN HANDWRITING ³

(Percent of children in each grade completing successfully the number of lessons indicated. Based on records of 1839 children.)

Lesson	Grades and Groups											
	3 B			3 A			4 B			4 A		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
1	8	4	5	3	1	1	2	4	8	2	4	3
2	15	16	25	5	4	6	6	7	6	4	5	5
3	19	24	22	7	7	14	10	16	13	7	6	14
4	18	22	12	12	13	18	14	16	18	10	10	7
5	15	18	12	13	18	17	12	17	17	15	13	24
6	19	6	12	13	15	14	9	19	15	17	14	21
7	0	4	7	15	13	14	13	8	11	15	15	11
8	4	3	0	8	9	5	12	5	8	9	10	7
9	2	3	5	9	7	3	9	4	3	6	8	1
10				2	4	3	6	0	1	4	4	2
11				3	3	2	4	1		3	5	1
12				5	3	1	1	2		5	3	3
13				3	2	2	2	1		1	1	
14					1					1	2	1
15				2						1	0	
Median												
Lessons Completed	4	4	3	6	6	5	6	5	5	6	6	5

³ From records of Miss Lena M. Shaw, Supervisor of Penmanship.

3B to 4A. The Detroit Standard Practice Tests in Handwriting provide for complete individualization of instruction, and yet the figures below reveal very wide ranges in rates of progress in every group and grade.

The table is to be read as follows: at the end of the first six weeks of the semester, 8 percent of the 3B X children were still working on Lesson 1, 15 percent on Lesson 2, etc. The medians of number of lessons completed in six weeks in the X, Y, and Z groups were 4, 4, 3, respectively.

Many similar records might be shown. All of them prove that when provision is made for individual progress, children in each group move forward at rates which vary widely. The child of exceptional capacity, handicapped by ill health, poor home conditions, etc., may and does make slow progress, while the child of low mentality under favorable conditions may and does make rapid progress. Complete individualization of instruction, whenever the goal is acquisition of knowledge or skill, is, in the writer's judgment, the only complete solution of the problem of adjustment to individual differences. Grouping on the basis of mental capacity is merely an expedient, not a final solution.

Perhaps the best proof that children do not fall into permanent natural ability groupings so specialized that they may be taught as a class of homogeneous ability in all subjects is furnished by the evidence from achievement tests. The Detroit scheme of tabulation places a child in one of five classes with respect to the standard for his subject and grade⁴. The general scheme of tabulation is uniform for all subjects. If there were natural ability groupings, a child in Group III in one subject would be in Group III in all.

The individual records from 26 schools were canvassed and the record cards of all pupils in the 4B grade present for both the initial and the final tests in reading, writing, arithmetic, spelling, and composition, and having their section group recorded, were selected for a study of constancy of position⁵. The midscore position of each child was used as a measure of position and the number of different positions was used as a measure of inconstancy. For in-

⁴ See page 146.

⁵ Special tabulation made by P. T. Rankin, Assistant Director in Charge of Instructional Research.

stance, if a child was found to be in Group IV in reading, Group III in writing and in arithmetic, Group V in spelling, and Group II in composition, his position was considered to be Group III and the number of different groups as four. The corresponding measures for a child whose score placed him in Group III in all five tests were "III" and "one."

The consolidated results are shown in Table 4.

TABLE 4.—MEASUREMENT OF CONSTANCY OF ACHIEVEMENT GROUPINGS IN INITIAL TESTS, FEBRUARY, 1924, AND IN FINAL TESTS, JUNE, 1924. NUMBER OF CHILDREN IN EACH ACHIEVEMENT GROUP AND THE NUMBER OF DIFFERENT POSITIONS IN WHICH THEY ARE FOUND

(Subjects: 162 X Children, 251 Y Children, 140 Z Children, Total 553. Grade 4B. Based on Scores in Reading, Writing, Arithmetic, Spelling, and Composition.)

Groups	INITIAL TESTS														
	X					Y					Z				
Number of Different Positions	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Mid Group															
I															
II			12	5				1					2		
III		5	21	27	1		2	7	7	3			3	2	
IV		9	36	14		1	26	70	19			7	13	2	
V	2	22	8			16	67	32			24	77	8	2	
Total	2	36	77	46	1	17	95	109	27	3	24	84	26	6	0
Percent	1	22	48	28	1	7	38	43	11	1	17	60	19	4	0
Groups	FINAL TESTS														
	X					Y					Z				
Number of Different Positions	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Mid Group															
I	1	6	4					2							
II	1	12	26	15		5	13	16			1	8		8	
III		8	35	29	2	6	67	52	8		3	25		19	
IV		1	8	6		4	33	24			4	32		12	
V	1	4	3			3	15	3			1	17	10		
Total	3	31	76	50	2	0	18	130	95	8	1	25	75	39	0
Percent	2	19	47	31	1	0	7	52	38	3	1	18	53	28	0

For convenience in making comparisons, the percentage totals from Table 4 are repeated in Table 5 in different groupings:

TABLE 5.—COMPARISON OF INITIAL AND FINAL TESTS

Group	X					Y					Z				
Positions	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Initial	1	22	48	28	1	7	38	43	11	1	17	60	19	4	0
Final	2	19	47	28	1	0	7	52	38	3	1	18	53	28	0
Changes	+1	-3	-1	+3	0	-7	-31	+9	+27	+2	-16	-12	+34	+24	0

The work of the term made small changes in the number of different positions held by the X's in different subjects, but greatly increased the spread of the Y's and the Z's, the Z's more than the Y's. In all groups, at the end of the semester, approximately 80 percent of the children are classified in from three to four different achievement groups with respect to the standards in the five subjects.

TABLE 6.—COMPARISON OF X Y Z GROUPS

Time of Test		Initial					Final				
Position		1	2	3	4	5	1	2	3	4	5
Groups	X	1	22	48	28	1	2	19	47	31	1
	Y	7	38	43	11	1	0	7	52	38	3
	Z	17	60	19	4	0	1	18	53	28	0
Group as a whole		8	39	38	14	1	1	13	51	33	2

In both the initial and final tests, the greater the ability of the pupils, the larger the number of positions they occupy with reference to the standards in the different subjects. Not only do children not fall into groups of relatively equal ability in all subjects, but the training given in the Detroit schools tends to increase rather than decrease the diversity. The number of children who maintain a constant position in all subjects is very small, approximately 8 percent at most. Half the children are in at least three different positions with respect to the standards in the five subjects under any form of mass instruction. The administrative difficulties of providing a fixed class organization which shall nevertheless permit adjustment of work to individual needs are very great. However, individualization of instruction, through practice test materials based upon the unit-task, individual-progress idea, provides a solution which is both administratively feasible with large masses of children and educationally efficient.

B. DATA ON ABILITY-GROUPING FROM LOS ANGELES

By ELIZABETH T. SULLIVAN

University of California, Extension Division, Los Angeles, California

An investigation was undertaken in the low fourth grades in seventeen elementary schools of Los Angeles, where the children had been classified previously into three groups, Accelerated (X), Average (Y), and Retarded (Z), on the basis of the "promotion quotients" worked out from scores made on the following tests: Haggerty Delta I, Haggerty Sigma I, Thorndike-McCall Reading Scale No. 2, Woody-McCall Mixed Fundamentals, and a modified Ayres Spelling Test. Follow-up tests, the nature and results of which appear here, were given by seventeen school counselors to all the B4 pupils classed as Retarded (Z) in these seventeen schools, and to an equal number of Accelerated (X) and Average (Y) pupils of B4 grade in the same schools, determined by selecting every other name on the register of these two groups. Attention was given to securing as far as possible a balance between the sexes. Five hundred and seven children were selected, including approximately 143 X, 170 Y, and 194 Z pupils.

The tests were given *individually*. The investigator made definite observation as to the child's method of work, his particular difficulties, and his emotional reactions.

Measures were secured for weight, vital capacity, strength of grip, rate of movement (tapping), vision, hearing, visual apprehension, logical memory, association time, reading, arithmetic, temperament, disposition, mental acumen, environmental conditions (home, school, neighborhood).

For lack of space, and because of the similarity in the relations among the three groups, only a limited number of graphs are included. The graphs appearing in Figure 2 are selected as typical of the others. These eight graphs are typical of many more. The three heavy vertical lines on each graph represent, from left to right, the lower, middle, and upper quartiles of the distribution. Read the graph as follows, beginning with the chronological age of the Z group: One child was 98 months old, one 104 months old, two 107 months old, one each 108, 109, 110, 111, 112, 113 months old, two

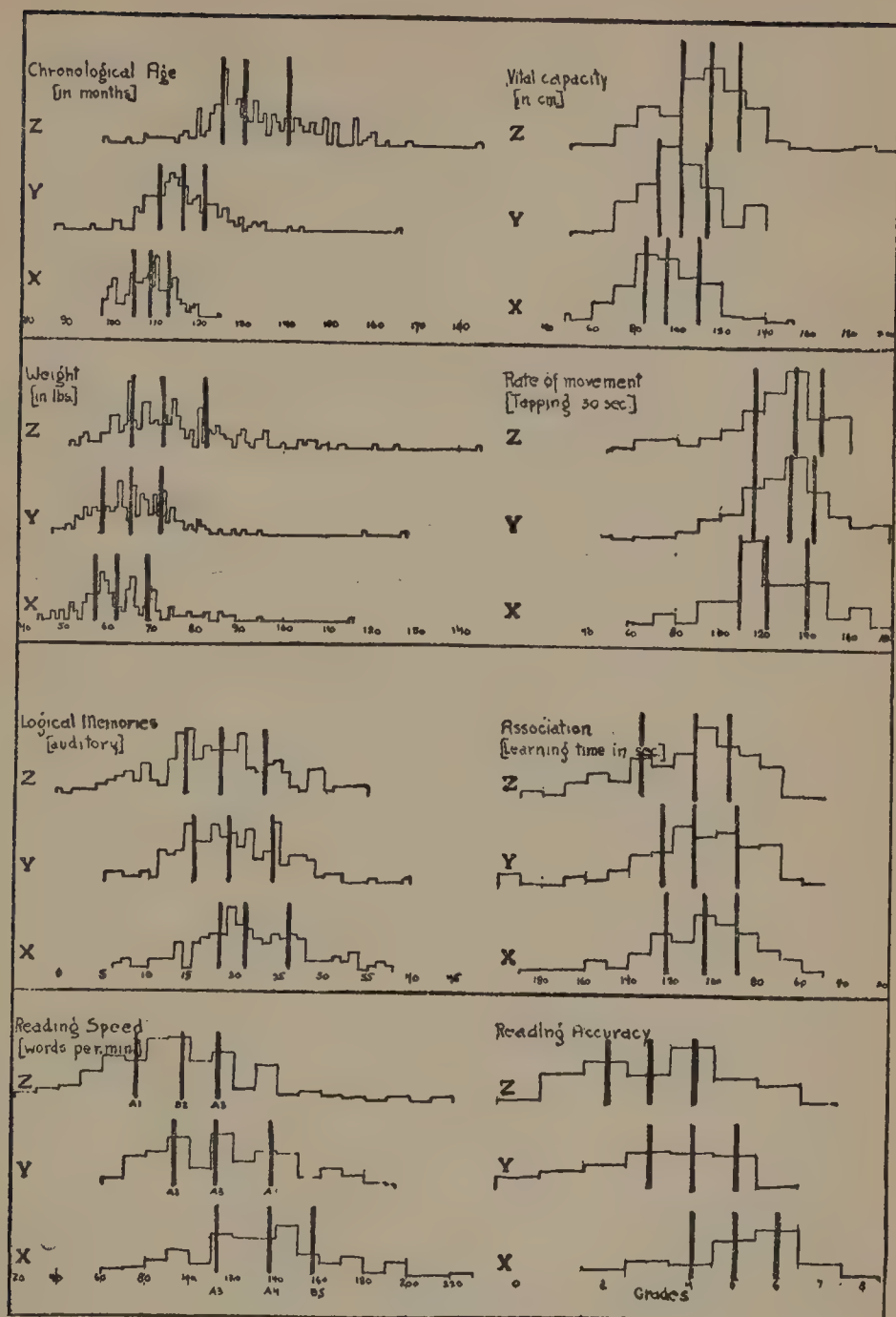


FIGURE 2.—COMPARISONS OF X, Y, AND Z GROUPS IN LOS ANGELES

115 months old, and so on. The lower quartile age was 125 months, the median age 130 months, and upper quartile age 140 months.

The following conclusions emerge:

1. Considered as a whole, the retarded group leads, the average group maintains a second position, and the accelerated group a third position in chronological age, weight, and in all the tests of physical and motor capacity.

2. The situation is exactly the reverse for the groups in all the tests of mental ability, of educational accomplishment, and in the estimates of advantages of school, home, and neighborhood, in which the accelerated tend to be the most favored, the retarded the least favored, while the average maintain a middle position between the other two groups.

3. In sensory capacity no marked differences appear in any of the groups, except that instances of the more serious defects of hearing and vision are more frequent in the average and the retarded groups.

4. The groups are about evenly distributed as regards the classification of temperament, with the exception that a considerable percent of the retarded group are judged as in a state of partial inhibition. This group shows also a large percent of children whose dispositions are rated as pleasant and agreeable most of the time.

5. The group tests employed in the initial reclassification of these children have served effectively as a rough measure.

6. A striking characteristic of all the 'follow-up' tests is the wide range in the distribution of scores made by the children in the three groups.

7. The differences between the groups in the tests of mental ability are significant: the retarded group are at a disadvantage with respect to rate of perception, range of visual apprehension, ability to form new associations by repetition, and strength of logical memory, all of which tend to lengthen the learning time for these children.

8. A second reclassification fruitful of results might be made by grouping the children wherever possible according to their percentile performance, including in the accelerated group all those who are at or above the 75th percentile in several of the tests of mental ability, in the average group those included between the

25th percentile and the 75th percentile, and in the retarded group those scoring below the 25th percentile level. Reclassification on this basis would result in still more homogeneous groups and would permit of more careful observation of the individual difficulties, a differentiation in the amount of time necessary in the separate groups for the processes of perception and association and memory, more carefully planned material for instruction, and more frequent relearning at the point where relearning counts for each child.

Comment by C. W. Washburne

While Dr. Sullivan makes out a good case for the consistent results of the classification, she does not point out the most significant feature of all her graphs—to wit, that the overlap of the three groups in every measure is very great indeed. The difference between the central tendencies of even the highest and lowest groups is always much less than the range of abilities within any one group. At least a fourth of the middle group made as good a record as the bottom half of the best group, and at least a fourth of the poorest group made as good a record as the bottom half of the middle group in every measure of ability or performance. One glance at Miss Sullivan's graphs shows the absurdity of considering the groups as homogeneous—this in spite of the fact that the consistency of her results shows the grouping to have been as reliable as such grouping can be.

C. DATA ON ABILITY-GROUPING FROM WINNETKA

BY CARLETON W. WASHBURNE

The Winnetka survey indicated clearly that children do not fall into ability groups, except in the most general sort of way. Data to support this statement were summarized and shown graphically in the 23rd *Yearbook*, Part I, in the section on the "Attainments of Gifted Children under Individual Instruction." The graph is reproduced herewith (Fig. 3).

From these data it is evident that, unless deliberately held together, children of the same intelligence quotient range scatter widely in their school progress.

The records of 367 children, in Grades III to VIII, allowed to progress individually for two years under the Winnetka plan, were divided into three groups according to intelligence quotients. The top quarter, ranging in I. Q. from 123 to 166, were considered as

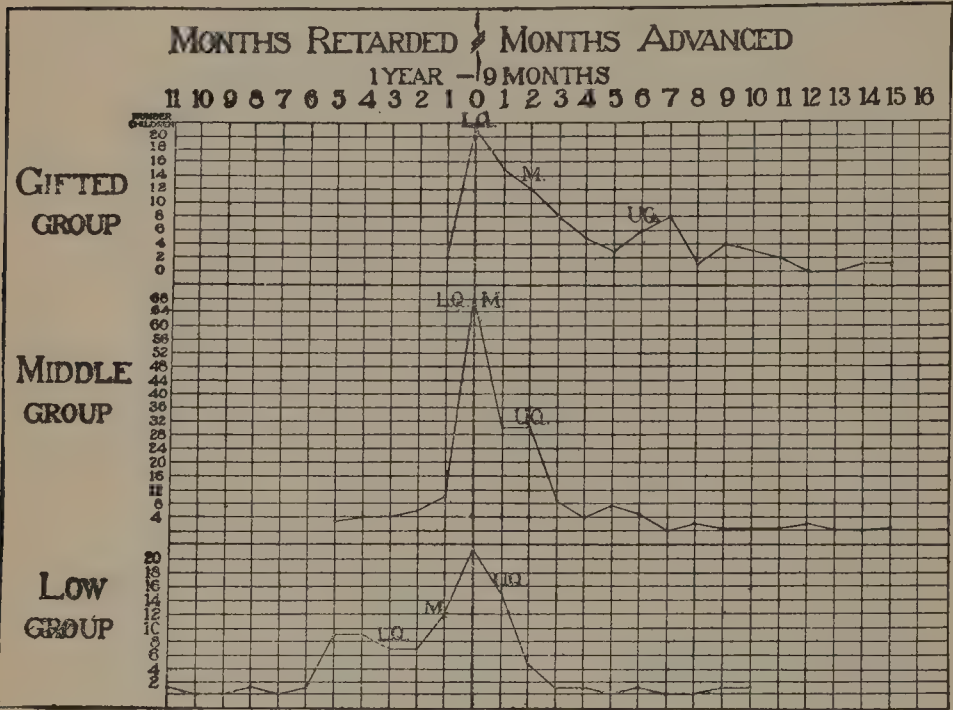


FIGURE 3.—COMPARATIVE PROGRESS RECORDS OF WINNETKA CHILDREN ACCORDING TO INTELLIGENCE QUOTIENTS

The "gifted group" contains the fourth of the children having the highest I. Q.'s (National). The low group contains the records of the children with the lowest fourth of intelligence quotients. The middle group consists of the middle half of the children. Read the chart as follows, beginning at the right of the upper distribution: The most rapid progress in the gifted group was made by one child who was 1 year 6 months (15 months) advanced at the end of 2 years of individual work. One child was 1 year 5 months (14 months) advanced; no children were 12 or 13 months advanced; 2 children were 1 year 2 months (11 months) advanced; 3 children were 1 year 1 month (10 months) advanced; 4 children were 1 year (9 months) advanced, etc.

the "gifted group;" the middle half, with I. Q.'s from 100 to 122, were classified as the "middle group," and the bottom fourth of the children, I. Q.'s 60 to 100, were called the "low group."

The central tendencies of these groups revealed the differences

one would expect—the median child of the gifted group progressed more rapidly than the median child of the middle group, and he in turn progressed more rapidly than the median child of the low group. This was true in every subject measured and in the average of all subjects.

The striking thing, however, was the overlap of the groups. Nearly half the children of the gifted group made poorer progress than the top fourth of the middle group. The top fourth of the low group even excelled the bottom fourth of the gifted group. (See Figure 3.) Consequently, had those children been classified into ability groups by I. Q., large numbers of each group would have been held to standards either above or below their natural ability.

It is true that most advocates of ability grouping nowadays favor a combination of intelligence quotient, achievement quotient, and teacher judgment, rather than a mere intelligence quotient method of classification. But the correlation of these is such that in many children the three factors will point in three different ways, and a classification would, therefore, be a mere compromise.

Ability grouping usually assumes, first, that intelligence quotient and school progress go hand in hand, and second, that a child who is good in one subject is good in all. While both these statements are often true, both are also often false. Within the gifted group, and within the middle group, no correlation was found in Winnetka between intelligence and individual progress ($r = .07$ and $.08$, respectively).⁶ It is only when children are lumped indiscriminately that positive correlation appears, and then only in such amount ($r = .587$) as to leave many individuals for whom there is no apparent relation between school progress and intelligence.

The Winnetka data on the relation of school progress in one subject to that in another show the same thing. The coefficient of correlation between reading ability and arithmetic ability is .75, that between reading and formal language (punctuation and capitalization) .79, and that between formal language and arithmetic .86. While all of these are positive and high, they still leave many cases of individual children for whom there is no relation between progress in one subject and that in another.⁷

⁶ In the low group the large difference between a child of I.Q. 60 and one of I.Q. 100 brought a correlation coefficient of $r = .407$.

⁷ See Figures 3 and 4, pp. 256-8, in the *Twenty-third Yearbook, Part I*.

The numerical data in Table 7 are exhibited graphically in Figure 4, which is read as follows: one child attained the goals in four days, another in six days, the next in fourteen days, and so on.

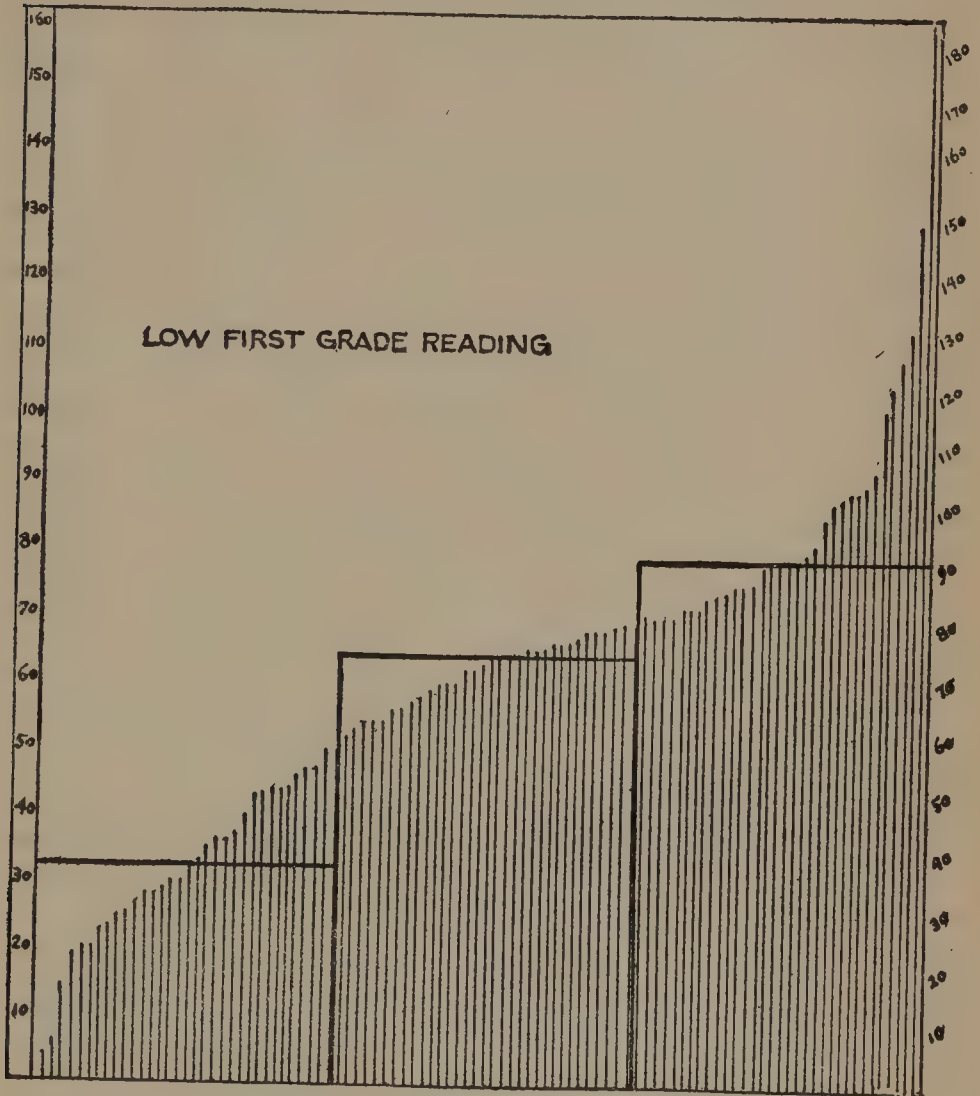


FIGURE 4.—NUMBER OF DAYS REQUIRED BY INDIVIDUAL PUPILS TO COMPLETE A HALF-GRADE'S WORK IN READING AT THE SAN FRANCISCO STATE TEACHERS' COLLEGE

Table 8 shows the variation in rate of progress of 98 children who completed high-first-grade reading when the goal was: the

State First Reader and a sufficient number of books selected from the first-grade reading list to give the pupil power to read any material on that level.

TABLE 8.—DAYS REQUIRED BY EACH CHILD TO COMPLETE HIGH-FIRST-GRADE READING

6	8	10	13	15	15	20	20	20	20	20	20
21	27	27	28	37	37	48	41	42	42	44	44
44	45	47	47	48	48	48	49	49	50	50	51
54	54	54	55	55	57	58	58	58	59	60	60
60	62	68	66	66	70	71	74	80	83	87	90
91	93	99	100	105	106	107	110	111	115	116	118
120	124	125	125	126	129	133	134	140	145	154	156
158	162	184	185	209	217	232	243	286			

Table 9 shows similar data for 94 children who completed low-second-grade reading when the goal was: State Second Reader and a sufficient number of books selected from second-grade reading list to give the individual pupil power to read any material on that level.

TABLE 9.—DAYS REQUIRED BY EACH CHILD TO COMPLETE LOW-SECOND-GRADE READING

10	11	11	13	17	18	18	21	22	23	25	27
27	29	32	32	34	34	36	39	39	41	42	44
45	48	48	48	49	50	51	51	51	52	53	56
58	59	59	59	59	60	60	61	61	61	62	63
63	65	65	67	70	73	73	74	74	76	79	83
86	87	87	88	90	92	94	94	96	102	102	105
104	104	107	107	108	112	113	116	129	130	130	133
135	141	141	145	155	171	183	190	195	224		

Table 10 shows similar data for 80 children who completed high-second-grade reading when the goal was: review of the State Series Reader and showing ability on the second-grade level.

TABLE 10.—DAYS REQUIRED BY EACH CHILD TO COMPLETE HIGH-SECOND-GRADE READING

7	8	9	9	12	13	14	14	17	18	20	21
23	23	23	24	24	25	27	29	31	31	31	32
32	32	34	35	37	38	40	41	42	44	46	47
48	54	56	56	59	61	62	62	66	70	71	72
73	74	74	74	75	77	82	84	85	88	92	94
96	96	97	97	98	99	100	103	105	105	116	122
123	125	128	132	132	150	163	186				

2. Arithmetic Records

Table 11 shows the variation in rate of progress of 112 children who completed low-first-grade arithmetic. Here the goals were: (1)

counting with objects from 1 to 20; (2) counting without objects from 1 to 50; (3) counting by 5's to 120; (4) counting by 10's to 120; (5) reading numbers from 1 to 50; (6) writing numbers from 1 to 50; (7) developing comparison of objects, such as large—small, long—short; (8) making change, as 5 cents, 10 cents, penny etc.; and (9) constructing and organizing a toy shop, grocery store, etc.

TABLE 11.—DAYS REQUIRED BY EACH CHILD TO COMPLETE LOW-FIRST-GRADE ARITHMETIC

6	6	10	10	10	10	14	14	15	18	18	19
20	20	22	22	25	26	26	27	28	28	28	29
29	30	30	32	33	33	35	36	38	38	38	39
39	39	40	40	40	40	41	42	42	43	43	44
44	45	45	46	46	49	49	50	50	50	50	50
50	51	52	53	53	53	53	53	54	54	54	54
54	54	55	55	56	56	56	57	57	58	60	60
60	61	61	61	63	63	63	64	64	66	67	68
69	70	70	70	71	72	73	75	75	79	81	81
89	100	197	272								

Table 12 shows similar data for 112 children who completed the following high-first-grade course of study in arithmetic: reading numbers to 100; (2) writing numbers to 100; (3) counting 2's, even, to 50; (4) counting 2's, odd, to 31; (5) adding 1 to any number; (6) adding 2 to any number; (7) adding 10 to any number; (8) beginning at any number and adding columns of six addends; (9) column addition of six addends involving the combination of any of the foregoing numbers; (10) making change and simple subtraction; (11) simple forms of fractions, as $\frac{1}{2}$, $\frac{1}{4}$, etc.; (12) constructing and organizing store projects, labeling, and making price tags; and (13) estimating size of room and objects which must include the practical use of the ruler.

TABLE 12.—DAYS REQUIRED BY EACH CHILD TO COMPLETE HIGH-FIRST-GRADE ARITHMETIC

5	7	7	8	8	8	10	10	11	12	13	14
15	16	16	16	17	17	20	20	20	20	20	21
21	22	22	22	22	23	25	26	26	28	28	28
28	29	29	29	30	31	31	32	33	33	34	34
36	36	37	37	38	38	38	40	40	40	41	41
42	42	42	42	44	45	45	48	48	49	49	49
49	49	52	53	53	57	57	57	58	59	61	62
62	62	63	63	64	64	66	66	67	67	68	69
70	70	75	79	87	89	90	95	95	100	101	110
127	142	149	202								

Table 13 shows similar data for 114 children who completed the low-second-grade course of study in arithmetic: (1) use of the following combinations—6 and 4, 3 and 3, 4 and 4, 8 and 8, 3 and 5, 8 and 6; (2) social experiences of the first grade enlarged in the low and high-second grades; (3) Burk's *Bulletins*.

TABLE 13.—DAYS REQUIRED BY EACH CHILD TO COMPLETE LOW-SECOND-GRADE ARITHMETIC

1	5	7	7	8	11	12	14	14	17	17	18
18	19	20	20	21	22	23	23	23	24	25	26
26	27	27	28	29	29	29	29	29	30	31	31
32	32	32	33	33	33	33	34	34	34	34	34
35	35	36	36	37	37	39	40	40	41	41	42
44	45	45	46	47	47	48	48	49	50	50	50
50	51	52	54	54	55	59	59	60	60	63	64
68	70	75	77	78	80	85	85	88	90	97	99
103	103	103	105	106	112	114	121	121	127	128	133
133	133	137	145	146	211						

Table 14 shows similar data for 73 children who completed the following course of study in high-second-grade arithmetic: (1) complete all combinations in addition; (2) solve simple problems in involving these combinations; (3) add columns of six addends (Burk's *Bulletins*).

TABLE 14.—DAYS REQUIRED BY EACH CHILD TO COMPLETE HIGH-SECOND-GRADE ARITHMETIC

2	3	4	7	7	8	8	10	11	12	12	13
14	14	15	15	15	15	17	18	20	23	23	23
23	24	26	26	27	28	28	28	29	30	32	32
33	33	33	34	34	35	35	35	35	36	36	36
38	38	38	39	41	43	45	46	47	47	48	49
49	50	50	51	53	56	56	57	58	59	60	61

Comment by C. W. Washburne

Tables 7 to 14 are presented by Miss Ward and her collaborators without comment. The implications, however, are obvious.

There are no clear-cut ability groups. The children are distributed evenly in each subject and do not bunch appreciably at any one place. If an all-wise teacher had been able to predict each child's rate of progress—and no test will do that—and if the children had been ideally classified for work in each subject on the basis of ability in that subject, the heavy black lines which we have superimposed on the graph of actual progress (see Fig. 4) show how the ability-

groups would have been composed. Take low-first-grade reading, for example: If the fastest third of the children in beginning reading had been grouped, then taught at the rate of the median child of the group, it would have required 32 days for this group to have completed the course. The child who could have completed it in 4 days would have taken 8 times as long, the child who could have finished in six days would have wasted 26 days, and so on up the line. On the other hand, children who require from 33 to 50 days to master the work would have been forced forward at a rate inconsistent with their ability; the slowest of these would have received low marks, and inadequate training.

Take the children who fall on the two sides of the dividing line, between the fast and the middle groups: One child needs 50 days to complete the course and would be forced to do it in 32; the next child needs 52 days but must spend 64—the median time of the middle group. The two children have almost the same ability, but one must take double the time of the other. The discrepancies in the slow group are worst of all. Here the child who could complete the work in 70 days is classified with the one who needs 162 days, but both would be forced to do the work in 79 days. The slowest child of this group needs more than double the amount of time allotted him.

Of course, the San Francisco State Teachers College makes no attempt to classify pupils; each goes at his own rate. But their records show conclusively that children do not fall into homogeneous-ability groups and that even the best ability-grouping does not really fit schools to individual differences.

E. DATA ON ABILITY-GROUPING FROM IOWA

BY ERNEST HORN

State University of Iowa, Iowa City, Iowa

Arguments for making adjustments to individual pupils have, in the main, been based on data showing differences in the status of children at a given time with regard to one or more traits or abilities. Investigations have clearly established the fact that children

in a typical class in a public school vary considerably in mental age, in physiological development, and in scores made on tests of special school abilities. Such data show that some adjustments to individual differences must be made. But even more convincing than these differences in status, significant as they are, are differences in *rates of progress*. For if pupils learned at equal rates, or if rates of progress correlated highly with status at the beginning of the learning period, the problem of individual differences could be solved by classification.

Beginning in 1915, the staff of the University Schools at the State University of Iowa has, in its pupil accounting, stressed particularly *differences in progress* among pupils, in addition to carefully recording differences in status. The data from these records show, in brief, that there are wide differences in rates of progress in each type of performance measured, that these differences are greatest when instruction is adjusted to individual needs, and that classification according to status at the beginning of a term is by no means a satisfactory basis for prognosticating the differences in progress during that term. Accordingly, we have come to recognize that, while for administrative reasons we classify students at the beginning of a term on the basis of their status in one or more abilities, such a classification only partially offsets the waste of time resulting from unequal rates of progress.

Limitation of space permits only a very brief review of the investigations of this problem. Most of the space will be given to a review of an investigation organized to validate the results published by the late Dr. Frederic Burk⁸ of the San Francisco State Normal School.

This investigation was begun in 1916 by Jane Howarth,⁹ at that time principal of the Perkins School for crippled children. After preliminary experiments in this school, Miss Howarth undertook an investigation of differences in the rates of progress of forty fifth-grade public school children in completing three exercise books

⁸ Burk, Frederic. *Individual Instruction*, Monograph C. San Francisco, State Printing Office, 1915.

⁹ Howarth, Jane. *A Study in Individual Variation in Language Ability in a Fifth Grade of Forty Children*. Master's thesis, unpublished, State University of Iowa, 1918.

published by the San Francisco State Normal School: *Exercises in Language*, Nos. 42, 43, and 44. These books consist of lessons on twelve language elements as follows:

1. Periods and question marks
2. Dates without the year
3. Commas in a series
4. Commas as used to separate the name of a city from that of a state in which it is situated, as Lansing, Michigan
5. Possessives simple
6. Possessives advanced
7. Letter forms
8. Titles of relationship, when written with a small letter and when capitalized
9. Titles of offices, when written with a small letter and when capitalized
10. Quotations
11. Time of day
12. Section and direction, as south, written with a small letter when referring to a direction and with a capital when designating a section of the country

At the beginning of this experiment the Trabue completion test, Form B, was given along with a dictation test built especially to measure the initial ability of these forty children on the material they were about to study. The results of Miss Howarth's experiment seemed to justify the following conclusions:

1. That the variation among pupils in the time taken to complete such exercises is large enough to constitute a serious administrative problem.

2. That neither the Trabue test nor the dictation test, nor both tests taken in combination, would have afforded a satisfactory basis for classifying these pupils. The rates of accomplishment of individuals varied so greatly that only two of the forty children could have worked together with little or no waste. This is shown clearly in all of Miss Howarth's tables which bear on this point. Table 15, for children who made a score of 12 on the Trabue test, is representative.

3. That each pupil in the group, through the use of this individual instruction method, gained very materially in all of the abilities taught. The first test taken over the subject matter treated in

these books showed a median score of 55.6 percent, with a quartile deviation of 8.1. The scores made after the books had been completed gave a median of 90.7 percent, with a quartile deviation of 3.7.

TABLE 15.—NUMBER OF 30-MINUTE PERIODS TAKEN PER EXERCISE BOOK BY ELEVEN PUPILS ALL OF WHOM SCORED 12 IN THE PRELIMINARY TEST

Pupil Number	Preliminary Test Trabue	Bk. 1	Bk. 2	Bk. 3	Total
1	12	19	19	6	44
2	12	17	10	10	37
3	12	18	13	14	45
5	12	18	13	18	49
6	12	17	14	6	37
19	12	20	11	9	40
22	12	13	9	8	30
29	12	16	18	11	45
32	12	18	14	19	51
33	12	32	20	8	50
36	12	23	16	9	48

4. The results clearly substantiate the claims made by Dr. Burk as to the individual differences in progress, for the types of abilities represented in the experiment.

The conclusions which one would reach on the basis of the data offered by Dr. Burk and Miss Howarth are uniformly substantiated in every investigation of rates of progress which has been carried on in the University School. Two facts stand out in the writer's mind as deserving particular emphasis because of the clearness with which they contrast the problem of teaching with the problem of classifying students. The first is that any given individual is by no means uniform in his rates of progress. The second is that even among pupils who are progressing at approximately equal rates there are wide differences in the nature of the difficulties with which these pupils are confronted.

The lack of uniformity in the rates of progress of individuals. The situation shown by inequalities in status among the pupils in a class at the beginning of a term's work and inequalities in relative amounts accomplished by pupils during the term is complicated by

the fact that each individual varies in the rate at which he learns successive units of subject matter. In other words, each pupil works in spurts, having his 'off' days and his 'on' days. This is illustrated clearly in the experiment conducted by Miss Howarth. For example, two pupils, Numbers 2 and 6, finished Exercise Book No. 42 in 17 periods each. However, in finishing book No. 43 Pupil 2 required 10 periods, while Pupil 6 required 14 periods. On the other hand, in finishing Book No. 44, Pupil 2 required 10 periods and Pupil 6 required 6 periods. In other words, Pupil 6 required 40 percent more time to complete Book No. 43 than Pupil 2, but 40 percent less time to complete Book No. 44. It is clear that although each pupil required 37 periods to finish the three exercise books, they did not progress evenly. Had they been required to stay together day by day, each would have taken not fewer than 45 periods to complete the work.

Similar data could be given almost without limit to show the need of making such adjustments as will enable us to utilize the spurt periods of each pupil.

Differences in the nature of the difficulties which retard progress. Not only do pupils progress at different rates and unevenly, but the difficulties which account for these differences vary with each individual. This is shown quite clearly by data taken from an experiment in spelling. A sixth-grade class was required to learn to perfection Column N of the Ayres Spelling Scale. The initial test showed that pupils were not only unequal in the percentage of errors made, but that pupils with the same percentage scores missed different words. Pupil 1, for example, missed the words *use*, *yesterday*, *among*, *been*, *subject*, and *doctor*. Pupil 11 missed *himself*, *copy*, *been*, *among*, *there*, and *something*. Other differences were noted. Pupil 10 missed two words on the initial tests, *among* and *doctor*, learned both of them immediately, spelled them correctly on the next three consecutive tests, and on the fifth test misspelled *doctor*. Pupil 13 missed none of the words in the column on the first four tests, but missed *dozen* and *fifth* on the fifth and last test. These are mere samples of a large amount of data which show uniformly that the difficulties which retard the progress of one individual in a class are not necessarily the difficulties which retard the

progress of another pupil, of approximately the same ability, in that class.

At present, satisfactory data are available only for spelling, arithmetic, handwriting, reading, and the mechanical phases of composition, because of the greater ease with which progress in these subjects can be measured. In the case of every experiment in each of these fields the data consistently bear out the following conclusions for the typical public school class:

1. There are wide differences in the status of abilities in each of these subjects at the beginning of a year.

2. There are great inequalities in rates of progress, not only among pupils who have different abilities at the beginning of a learning period, but also among pupils of the same initial ability. Even pupils who have made equal progress for a given period of time show considerable differences in rates of accomplishment in subsequent periods.

3. There are variations or spurts in the rate of progress of a given pupil.

4. There are significant variations in the nature of the difficulties which retard the progress of the various members of the class.

Preliminary investigations seem to indicate that these conclusions are also valid for more complicated subjects such as geography, appreciation of literature, history, and hygiene.

If these conclusions are sound, it seems clear that the problem of individual differences cannot be solved by *classification* alone. The largest part of the solution must be accomplished through reaching the *individual* through *instruction*.

F. SUMMARY OF DATA ON ABILITY-GROUPING

The data brought to bear on the efficacy of ability-grouping fall under two heads: in Detroit and Los Angeles the results of careful classification into ability groups have been studied and have yielded important conclusions; in Winnetka, at the San Francisco State Teachers' College, and at the University of Iowa, children have been allowed to progress as individuals, then their records have been studied to see whether the children could have been classified in fairly homogeneous ability-groups without serious loss.

The Detroit studies show that children at each level of intelligence have a very wide range of achievement and very different rates of progress in any specific skill. They show, further, that excellence in one subject does not prognosticate excellence in others—in 80 percent of the cases studied, in all ability groups, each child was found at the end of a semester's instruction to be at three or four, out of a possible five, different levels of achievement in the five subjects measured; only 8 percent of the children maintained a constant position in all subjects.

The Los Angeles data from physical, psychological, and academic measurements of children classified according to ability, show that the ability groups overlap far more than they differ. The range in each ability group is many times as great as the difference between its central tendency and that of the next ability-group.

The Winnetka results exactly confirm those from Los Angeles. In Los Angeles children were taught in ability-groups; in Winnetka, individually. Yet in both cases the same sort of distribution was found. The range in achievement among the bright children or average children or slow children is greater than the difference between the median achievement of any two groups. Nearly half of the 'gifted' children in Winnetka made less rapid progress than the top fourth of the middle group, and the top fourth of the low group actually excelled in progress the bottom fourth of the 'gifted' group. Had the children been classified into ability-groups, large numbers would have been held to standards above or below their ability. The Winnetka study of individuals within any one group, confirms the Detroit demonstration that a child may excel in one subject and do poor work in another, while children of identical I. Q. may differ widely in progress.

The San Francisco State Teachers' College results bring out the same lack of homogeneity among children. They show that children do not bunch at any ability levels, but vary gradually from very fast to very slow; any attempt at ability-grouping would simply do on a somewhat smaller scale what ordinary class instruction does on a larger scale—waste the time of the quick child and force the slow child forward at a rate too fast for thoroughness.

The University of Iowa studies confirm all these statements. They show that classification according to the child's status at the begin-

ning of a term is by no means a satisfactory basis for prognosticating the difference in progress during that time. Classification only partly offsets the waste of time resulting from unequal rates of progress. Only two out of forty children were found who could have worked together with little or no waste. Individual children are by no means uniform in their own rates of progress. Even among pupils who are progressing at approximately equal rates there are wide differences in the nature of the difficulties with which they are confronted. Pupils who have even made equal progress for a given period show considerable difference of progress in subsequent periods.

All these data, gathered by five groups of investigators working independently, point to this conclusion: children do not fall into natural ability-groups and cannot be classified so as to yield homogeneous groupings; groups which appear relatively homogeneous at the time of classification soon vary more within themselves than they do from each other; different types and amounts of instruction are required by different children within each group; ability-grouping does not solve the problem of adjusting schools to individual differences.

II. DOES INDIVIDUAL WORK SAVE TIME

The claim oftenest made for individual instruction is that it saves time. The actual statistics gathered on this subject seem to indicate that this is true for many individuals, but not always for the median, or average, child. Since curricula in traditional schools are supposed to fit the average child, it is not surprising that the child of average ability in any subject should go at about the same rate under individual instruction as he would under class instruction. For the child of ability above average, the data are unequivocal; he certainly saves time. The child just below average, who might have been promoted each year on a barely passing mark, probably loses time under individual instruction; he must stick at each job till he masters it, instead of sliding through on the lowest passing grade. The very slow children, who would have to repeat grades under the traditional system, save time, again, by individual work.

Many of the data which lead to these conclusions are presented under other heads in this section. Under the head of ability-groupings, just discussed, for example, are tables and graphs that bring out clearly the time saved to the brighter children. Miss Sullivan's graphs of reading achievement after a semester training in Los Angeles, the Winnetka progress distribution graphs, the tables from the San Francisco State Teachers' College showing the number of days required by different children to complete a grade's work in reading and arithmetic, and Horn's data on the number of periods acquired by different children to go through a language exercise book, all show unmistakably that much time is saved for the faster pupils. Under the head of provision for social and self-expressive activities, below, the Winnetka results show much time cleared each day for all children for group and creative work; this would certainly indicate that some time is saved for all children, since these same schools are shown to be doing efficient academic work in a smaller portion of each day than is customary in class-method schools. As to the very slow children, the data on decreasing retardation, given in the fifth subdivision of this section, show that there is less retardation under individual instruction than under the class lock-step, proving that time is saved for many who would ordinarily be repeaters.

In addition to these data, there are certain direct studies of the

particular question of time-saving. The San Francisco State Teachers' College presents valuable material in this connection. The Winnetka data confirm those from San Francisco. McCrory analyses children's progress in a single subject, spelling, to determine time saved; Courtis analyses the progress of a small group of children; while Sutherland summarizes the records of a thousand children learning particular subjects on an individual basis.

A. TIME SAVING IN SAN FRANCISCO STATE TEACHERS' COLLEGE

By MARY A. WARD, GRACE E. CARTER, HILDA M. HOLMES, AND
CECILIA ANDERSON

A study of the record of 130 pupils graduating from our school during the last two years shows some interesting facts in regard to the saving of time for the pupils instructed under the individual plan.

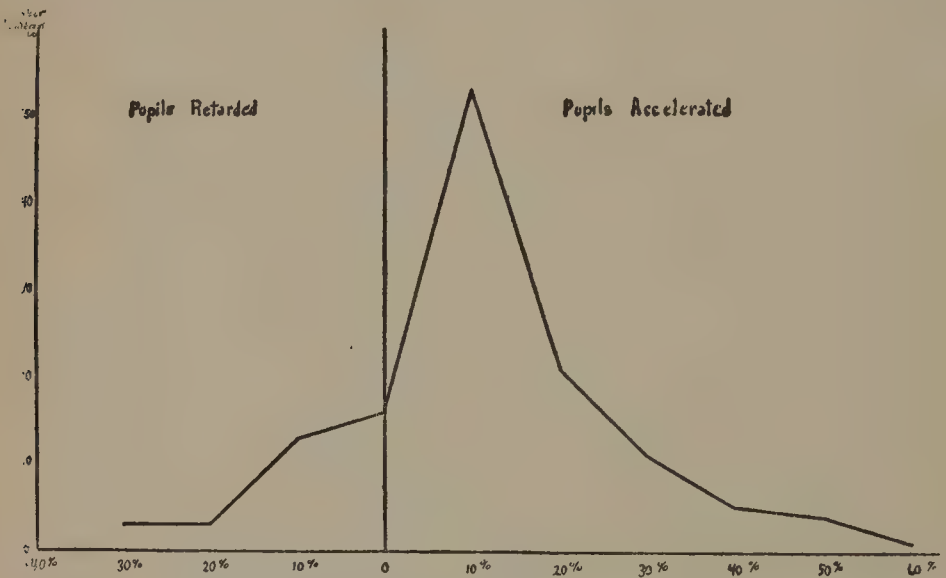


FIGURE 5.—DISTRIBUTION OF PUPILS' PROGRESS AT THE SAN FRANCISCO STATE TEACHERS' COLLEGE

Read this graph as follows: Beginning at the left, and following the solid line, 3 children lost ground at the rate of 30 percent, *i.e.*, needed 3 months extra to do ten months' work; 3 lost at the rate of 20 percent; 3 at the rate of 10 percent; 16 made exactly normal progress; 53 gained 10 percent, *i.e.*, completed 10 months' work in 9 months; 21 gained 20 percent, and so on to the extreme right, which shows one child gaining 60 percent, or finishing 10 months' work in 4 months.

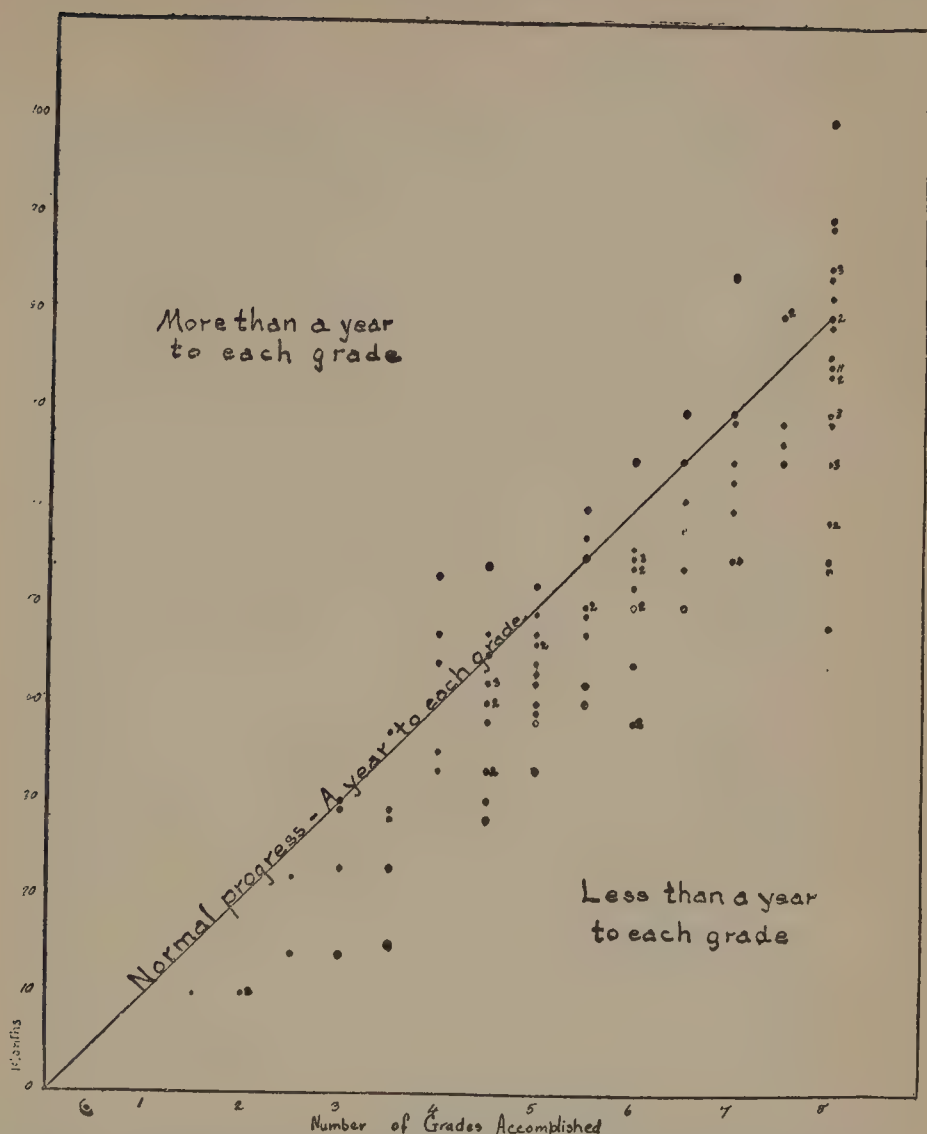


FIGURE 6.—DIFFERENCES IN TIME TAKEN BY INDIVIDUAL PUPILS TO DO A NUMBER OF GRADES OF WORK AT THE SAN FRANCISCO STATE TEACHERS' COLLEGE

Each dot on the diagonal line represents one or more children who progressed exactly at the rate of a grade a year. All dots above the diagonal line represent children who required more than a year to complete each grade. Those below the diagonal line represent children who required less than a year to complete each grade. The lower left hand dot shows the child who completed $1\frac{1}{2}$ grade's work in ten months (one year). The next dot shows two children completing two grades' work in ten months. The next dot, one child completing $2\frac{1}{2}$ grades' work in fourteen months, and so on. One hundred children show saving of time; seven children show neither gain nor loss; twenty-three children show loss of time. One grade represents ten months' work.

It will be helpful, in interpreting the graphs (Figs. 5 and 6) and in making comparisons, to keep in mind the following conditions under which our school operates:

1. All teaching is done by student teachers under the supervision of the faculty.

2. The school day is divided into two sections with two teachers in each section. Changes are made in the assignments of these four teachers every twelve weeks.

3. Our program provides for a short school day. The actual amount of time for work in the first and second grades is 2 hours, 45 minutes, per day. The actual amount of time for work in the third and fourth grades is $3\frac{1}{2}$ hours per day. The actual amount of time for work in the grammar grades is 4 hours per day.

4. As the records show, children may enter the school at any time during the year with no loss of time due to transfer. After an inventory test, work is planned to suit the needs of the individual. Retardation in one subject does not affect progress in other subjects.

5. In the grammar grades only three hours a day are spent on the regular school curriculum. The rest of the time is devoted to music, art, science, manual arts, domestic arts, and supervised play.

In spite of the handicaps of these conditions and in spite of the enriched curriculum, the graphs show a saving of school time to 100 graduates out of 130 who have worked under the individual system.

B. TIME SAVING AT WINNETKA

By CARLETON W. WASHBURNE

The Winnetka results on time saved are very similar to those of the San Francisco State Teachers' College, although the percent of children saving time is not so great. Seventy-seven percent of the San Francisco State Teachers' College children saved time as against 50 percent of those in Winnetka. Eighteen percent took more than a year to a grade in San Francisco, and 20 percent in Winnetka. The Winnetka results are shown graphically in Figs. 7 and 8.¹⁰

¹⁰ Complete distribution curves classified by intelligence levels are reproduced elsewhere in this *Yearbook*. See Fig. 3.

These data result from a study of the progress of 389 pupils over a period of two years, each child's progress in arithmetic, reading, language, history-geography, and writing-spelling being averaged. The median intelligence quotient of Winnetka children on the National Intelligence Test was 107, the range, from 60 to 190.

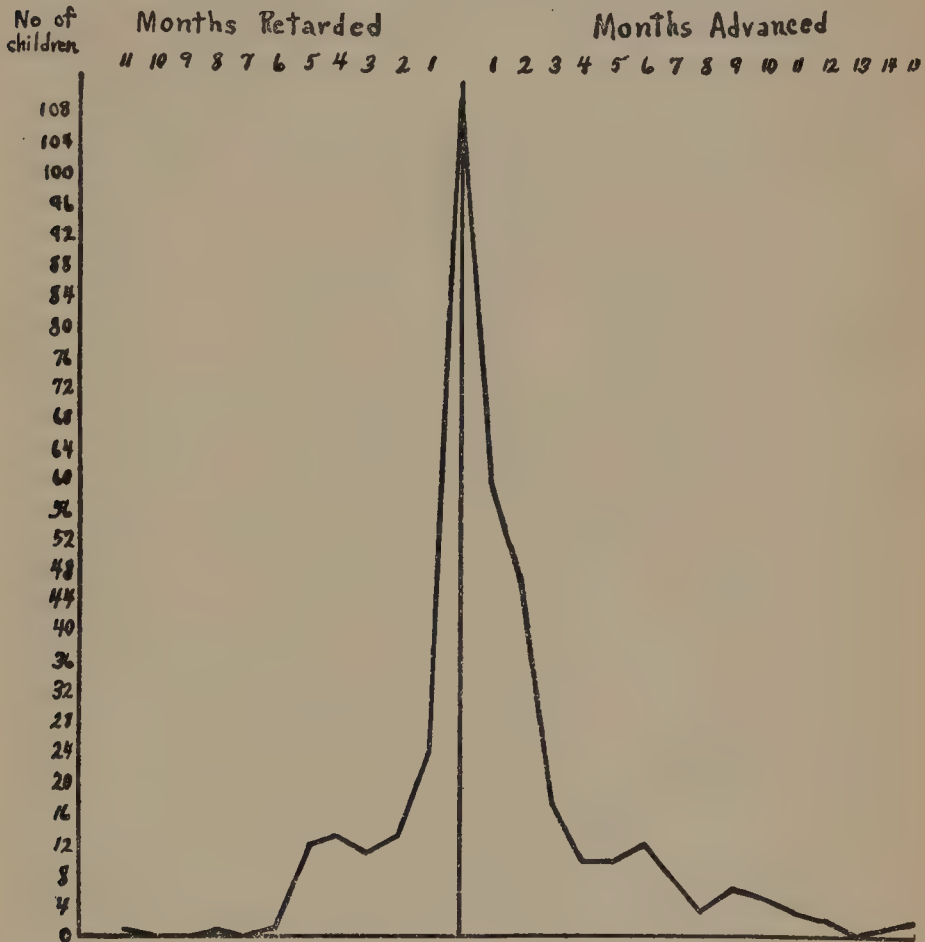


FIGURE 7.—PROGRESS DISTRIBUTION IN THE WINNETKA SCHOOLS

This shows the number of children who, at the end of two years of individual work, had not yet completed two grades of work, had completed two grades, or had completed more than two grades. Read the chart as follows: One child was 11 months retarded, *i.e.*, had only done 7 months' work in two years. One child was 8 months retarded, *i.e.*, lacked 8 months' work of having completed two grades, and so on to the mode, which shows 110 children exactly normal, having completed two grades in two years. To the right of this mode come 60 children who are one month advanced, *i.e.*, who had completed two grades of work and done a month's work beyond, at the end of two years, and so on.

The 187 children (50 percent) who saved time, saved a total of 655 months in two years, or an average of 1.75 months per child per year. The greatest saving was 15 months in two years—in other words one child did over $3\frac{1}{2}$ grades' work in two years.

20% Slow	30% Normal	50% Save Time
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FIGURE 8.—SUMMARY OF FIGURE 7

Twenty percent of the children made less than two grades in two years, 30 percent made exactly two grades in two years, and 50 percent made more than two grades in two years.

The 76 children (20 percent) who took more than two years to do two grades' work were altogether 220 months behind, representing an average loss of 1.45 months per child per year. These children did not have to repeat grades; many of them therefore really saved time. And each one stayed on each job till he mastered it.

The Winnetka results, then, show that individual instruction does save time for a large percentage of children.

C. TIME SAVING THROUGH INDIVIDUAL WORK IN SPELLING

By JAS. L. MCCRORY

Assistant Superintendent of Schools, Omaha, Nebraska

The writer conducted an experiment in three different grades, fourth, fifth, and sixth, in the Experimental School at the University of Iowa, the results of which seem to indicate a waste of about seventy-five percent of the pupil's time which is usually devoted to spelling. As a preliminary instruction program, each child was taught how to learn to spell by the use of nine spelling rules as follows:

1. The first step in learning to spell a word is to pronounce it correctly. If you do not know how to pronounce a word, look it up in the dictionary. When you are certain that you know how the word is pronounced, pronounce it, enunciating each syllable distinctly and looking closely at each syllable as you say it.

2. Close your eyes and try to recall how the word looks, syllable by syllable, as you pronounce it in a whisper. In pronouncing the word be sure to enunciate the syllables carefully.

3. Open your eyes to make sure that you were able to recall the correct spelling.

4. Look at the word again, enunciating the syllables distinctly.

5. Recall again, with closed eyes, how the word looked.

6. Check again with the correct form. This recall, as in 2 and 5, **should** be repeated at least three times, and oftener if you have difficulty in recalling the correct form of the word.

7. When you feel sure that you have learned the word, write it without looking at the book, and then check with the correct form.

8. Repeat this two or three times without looking either at the book or at your previous attempts.

9. If you miss the word on either of these trials, you should copy it in your spelling notebook, since it probably is especially difficult for you.

Briefly, the plan for the experiment was as follows: One day a list of fifty words was pronounced to the class. The words were taken from the Iowa Spelling Scale. The standard difficulty for the grade was known. The maximal amount of time used in any class for any day was fifteen minutes. The papers were taken up, corrected, and the words spelled incorrectly were noted. The next day the pupils studied only the words they missed and corrected them.

The time for learning was carefully recorded by the administrator. Each child was required to have three perfect spellings, in order to eliminate guessing.

The same list of words was given to Grades IV, V, and VI. There were 53 pupils in all three grades, distributed as follows: fourth grade, 19; fifth grade, 17; and sixth grade, 17. The chronological ages ranged as follows: fourth grade, seven years, seven months, to twelve years, three months; fifth grade, eight years to ten years, ten months; and sixth grade, ten years to thirteen years, four months. The range in intelligence quotients was as follows: fourth grade, 86 to 142; fifth grade, 83 to 140; and sixth grade, 72 to 146. The foregoing figures indicate that the group of children was a normal group, such as would be found in any elementary school.

Since we are interested in this article especially in individual differences, may I call your attention to the first list of fifty words? In the fourth grade one pupil missed no words in the three attempts and therefore took no time to study. Another pupil in the same grade missed 177 words and took 126 minutes to study. These are both pupils in the same class, who, by using the old-fashioned method, would have been forced to use the same amount of time for

their spelling. In the fifth grade, in the same list as used in the fourth grade, one pupil missed one word and learned it in one minute, while another missed 28 words and used 26 minutes to learn them. In the sixth grade, on the same list, one pupil missed one word and learned it in one minute, while another missed 21 words and took 17 minutes to learn them.

In this list of fifty words the pupil in the fourth grade spelled better than anyone in the fifth or sixth grade. On the whole experiment, of 300 words, she did better than fifty percent of the sixth grade. Is it fair to this girl to force her to spend the same time on her spelling as the rest of her class?

Some pupils in the sixth grade completed 300 words and spelled them correctly on three different days in 18 days. At that rate, those pupils could complete a normal year's work in 30 days and provide for two reviews, or three perfect spellings on each word. Of course, these pupils made the best record. The pupil who made the poorest record did not spell the first list of 50 words correctly once, but kept missing words in a sort of round-robin order.

As the result of this investigation, as well as others that have been carried on in the same field, it would seem there is a real opportunity for economy of time in spelling. In the writer's opinion this can be accomplished only through the use of individual methods.

D. TIME SAVING AT DETROIT

By STUART A. COURTIS

Detroit Teachers' College

Figure 9 presents a vivid picture of exactly what happens when drill work is completely individualized and of how time is saved. In the graph the rectangles represent the work of twenty eighth-grade children in the practice tests in arithmetic. The base of each rectangle represents the number of lessons completed (maximum 24) and the height of the rectangle represents the number of days in school (58). The first boy finished all the lessons successfully in 37 days and during the remainder of the experimental period (21 days) was excused from drill and devoted his time to other forms of school work. The last boy completed but 7 lessons in 49 days and

was not absent. If every child in the class had taken drill every one of the 58 days, the total number of drill exercises would have been 1160. Actually, through late entrance and absence, there were but 1082¹² possible drill exercises. Ten children completed their drill exercises and were excused from drill, saving a total of 146 days, or 13 percent of the total time. Yet 50 percent of the children achieved the goal set and the remaining 50 percent completed the work they did do thoroughly. The last three children, who entered late, created

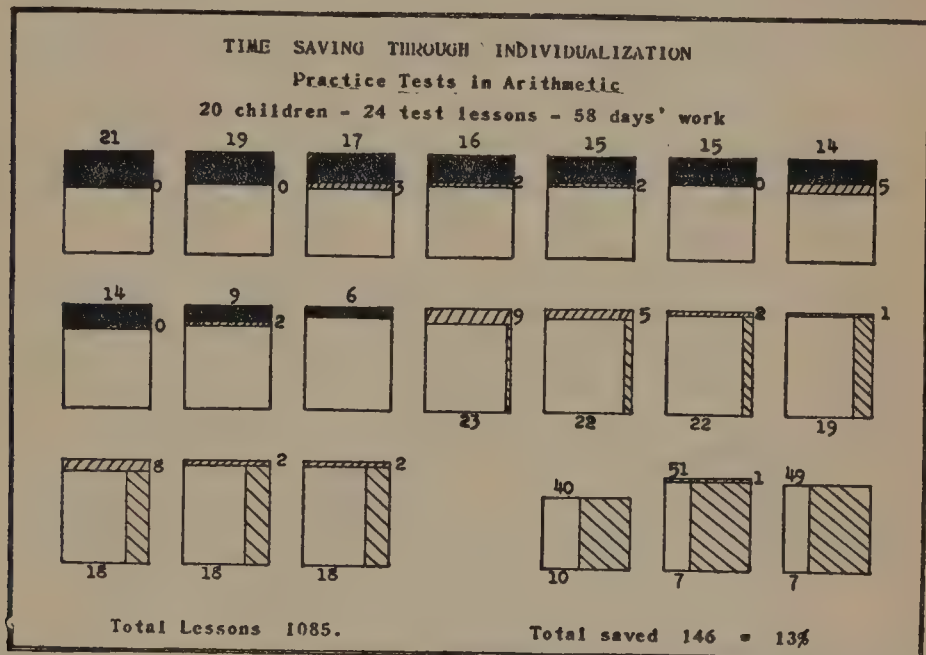


FIGURE 9.—TIME SAVING IN ARITHMETIC BY INDIVIDUALIZATION OF DRILL

Read the diagram as follows: Each rectangle represents one child's work. If a rectangle were all white it would indicate that the child had completed the series of 24 lessons (plotted on the base line) in 58 days (plotted vertically). Unfinished lessons are cross hatched at the right; days absent at the top; days excused are shown in black. The numbers at the top of the rectangles in black represent the days excused; at the right, the days absent; below, the number of lessons finished. Thus boy A (upper left) was excused from drill 21 days; that is, he finished the 24 lessons in 37 days and was not absent. Boy B (upper right) was excused 14 days and absent 5 days, but finished all the lessons. Boy C (lower left) finished 18 lessons and was absent 8 days. Boy D (lower right) entered late and was in school but 49 days. He was not absent and finished seven lessons.

¹² Given erroneously as 1085 in Fig. 9.—*Editor*.

no disturbance in the class organization, but, like the rest, began at the precise point drill was needed, and made progress at their own rate.

These results are from one of the very early tabulations of the winter in 1912 (or 1913) while working in the Liggett School, Detroit. The other data in connection with the experiment have been lost. The average scores of classes using the individualized material were invariably higher than results secured previously, so that it is safe to assume that in this case also the average score of the class is higher than it would otherwise have been. Similiar results on a large scale have been secured many times, but none is available at this writing. Individualized instruction, in connection with limitation of training, saves time both by freeing the able children from overtraining and by enabling the handicapped child to go slowly enough to complete thoroughly the work he undertakes.

E. TIME SAVING AT LOS ANGELES

By A. H. SUTHERLAND

The pupil who works under the conditions outlined for Adjustment Rooms in Los Angeles, proceeds 3.36 times as fast, on the average, as does the pupil in the regular grades.

The year is 40 weeks. The work, as outlined in the course of study, is divided arbitrarily into 40 parts, thus giving a unit of one week's work for one week's time. This subject matter, together with certain ideals for its practical application, is analyzed; practice material is prepared on the basis of this analysis. The resulting lessons, arranged with instructions which will call for the use of certain abilities, are printed and are in the file in each room for the pupil to use. Tests by means of which the pupil can test himself, are in the hands of the teacher to be given out as called for.

A check of 1,000 children, reported by the teachers from the individual progress cards at the end of the year, and averaged in the central office, showed that the development of abilities which were concerned in this assigned work proceeded 3.36 times as fast as those abilities are 'assumed' to develop, and are permitted to develop, in the regular grade.

This, however, is the record of pupils who on some basis are considered misfit pupils.

III. DOES INDIVIDUAL WORK INCREASE OR DECREASE SOCIALIZED AND SELF-EXPRESSIVE ACTIVITIES?

One fear, often expressed, is that individual work will be purely mechanical; that children will become individualists without social experience; that the school will become a factory, grinding out the three R's in a dead, routine fashion.

The actual experience of schools which have individual instruction would seem to make these fears groundless.

Miss Mackinder's school in London is thoroughly social and alive in its atmosphere; the children are unusually happy and spontaneous. The Frederic Burk School of the San Francisco State Teachers' College, as shown in other parts of this *Yearbook*, has always devoted much time to dramatics, discussions, shop, science, art, and music. And the Winnetka Schools present statistical evidence of an unusual amount of emphasis on group and creative activities.

A. SOCIALIZED ACTIVITIES IN THE MARLBOROUGH INFANTS' SCHOOL

By JESSIE MACKINDER

The actual amount of time usually devoted in this school to socialized activities (such as games, mass and class singing, recitation of poems learned, the telling of stories) and to self-expressive activities (including drawing, clay modelling, rhythmic work) is about the same as in most London schools. But, whereas the teaching of reading, composition, writing, and arithmetic was, in the past, entirely accomplished in class lessons, these subjects have become perhaps the most socialized of all.

The children very often compare their own work and the records of it with those of other children in the class; so these individualized subjects have been made additional means of intercourse between individuals, whereas, in the old days, no child was allowed to speak to his neighbor and had but little chance of speaking to his teacher concerning these subjects.

We often find three or four children with copies of the same story-book reading together. Sometimes one child discovers a very interesting passage and will read it to another. Lively discussions are often heard concerning such passages. Contrast this with schools where

class reading is the order of the day, and the only voice to be heard is that of the one reader, spelling out the words of the passage everyone is following.

The definiteness and self-instructive nature of individual work and materials, make it possible to allow and encourage informality and sociability among the children who are working with them.

B. SOCIALIZED AND SELF-EXPRESSIVE ACTIVITIES AT WINNETKA

By C. W. WASHBURN

To determine what part of the school day, under the Winnetka technique of individual work, is given to socialized and self-expressive activities, the research worker under the Commonwealth Fund grant spent days in the third, fourth, fifth, and sixth grades in Winnetka, six days in the corresponding grades of a good modern public school system (School I) near Winnetka, where the usual class methods are in operation, and six or seven days each in a progressive experimental school (School II) nationally known for its socialized work, and in the laboratory school of a large university (School III).

The visits were made in the following order: first, a visit to a third and sixth grade in each school; during the same month another visit to these same rooms, reversing the order of the visits; two months later a visit to a fourth-grade room in each of the four schools, and two months later a visit to a fifth-grade room in each of the schools studied.

In order to get results which were typical, the teachers were not told beforehand of the days when visits were to be made.

During each of these visits, the research worker stayed with the class from the beginning to the end of the school day. A record was kept of the specific activity engaged in by the majority of the class for every minute of the day, as far as this was possible. A slight disturbance was not recorded, since the main purpose of this study was to record child activities rather than class attention. Recess periods were counted as part of the school day in all schools.

After the visits, the activities listed were classified under various headings as given below:

1. Individual Work

a. *Individual Study*. During a period of individual study each child is reading his own book, working on an assignment of his own, or correcting his own work, which is not the same as the work of the rest of the class.

2. Class Work

a. *Class Study*. During a period of class study, each child is studying a lesson assigned to all.

b. *Class Drill*. Under this head come all quick drills or games for the purpose of increasing speed in applying knowledge already gained. Also under this head come writing exercises directed by the teacher.

c. *Class Recitation*. Oral recitation periods are periods when children are giving back to the teacher information gained through study. These recitations may or may not be on subjects in which the children are tested or graded.

d. *Class Recitation (written)*. Under written recitation come all lessons in which all the children are writing answers to the same assigned questions in any subject.

e. *Listening to Instruction*. Under this head come periods when the children are listening to information given by the teacher.

3. Group and Creative Activities

a. *Socialized Activities*. This heading includes all activities in which the whole class take part—often prompted, but not directed, by the teacher.

Examples: The children are having a business meeting; they are dramatizing a play; they are playing games in teams, either in the gymnasium or on the playground; they are building a snow house; they are having a literary program prepared by the class.

b. *Self-Expressive Activities*. Self-expressive activities are those activities which give the children an opportunity to express their own ideas. Articles to be made or stories to be written are often suggested by the teacher or other children, but in the working out of these stories or articles, each child expresses something of himself.

Examples: Each child is writing an original poem; he is making an article of his own choice; he is showing the dramatic teacher how he would look if he were the cold North Wind; each child is playing by himself or in groups of two or three (a great many

recess periods have been called "self-expressive" because free play has been counted as such); each child is drawing a picture of his own choice, working out his mat design or writing his own story.

c. *Directed Group Activities*. Under this head come activities in which the whole class take part—but under the detailed direction of the teacher.

Examples: The children are singing songs together; they are all doing rhythms together; they are doing physical exercises; they are saying a prayer in unison; they are copying pictures from their books.

d. *Listening to Reports*. Book reports on books chosen by the children, reports on topics assigned to an individual child, a recitation of a poem by one child (his own choice), or an account of an experience of one of the children would be called a child's report. During a period classed under this head, the majority of the class are listening.

e. *Recreation*. Examples: The children are visiting with each other; they are taking a sleigh ride.

f. *Entertainment*. Occasionally there is a period given over to the entertainment of the children by grown-ups or by the children in other classes.

Examples: The children are listening to plays in assembly; they are listening as the teacher entertains them by reading a story.

4. Miscellaneous

a. *Taking Directions*. During a period classed as "Taking Directions" the children are listening to directions on assignments, on school policies, or on any outside matters that may come up.

b. *Miscellaneous*. All other uses of time are classed as "Miscellaneous."

Examples: The children are getting papers, books, pencils, etc., ready for work; they are passing to and from classes; they are drinking milk; they are answering the roll call; they are changing their shoes; they are resting at their seats; they are listening as they are being disciplined.

All the activities carried on in each room visited were classified under one of the above heads. Table 16 shows the percent of time spent in each type of activity in each of the four schools.

Table 16 is also summarized graphically in Figure 10.

TABLE 16.—PERCENTAGES OF THE SCHOOL DAY GIVEN TO VARIOUS TYPES OF ACTIVITY IN WINNETKA AND THREE OTHER SCHOOLS

I		II					III						IV	
Schools	a	Individual Study				a	b	c	d	e	f	a	b	
	W. I II III	Class Study	Class Drill	Oral Recitation	Written Recitation	Instruction	Social	Expressive	Directed	Reports	Recreation	Entertainment	Taking Directions	Miscellaneous
		1.2	2.6	3.2	0	4.2	18.8	11.8	5	4	1.5	.6	3.6	11.8
		17.6	7.5	20.5	4	4.3	2.5	7.8	9.2	.8	.3	0	3.8	15.2
		9.6	.6	16.6	.5	11.6	12.8	8.6	7.5	.3	.6	4.8	3.5	14
Ind. Work	13	14.3	1.8	10.3	2	3.8	9.8	12.5	10.2	1.8	.5	5	14.5	
	Group and Creative Activities													Misc.
														15.4
	W.	31.5	11.2											19.0
	I	6.3	53.9											17.5
II	8.5	38.9											19.5	
III	13.0	32.2												

From these data it would appear that individual instruction and progress in the common essentials, as carried out in Winnetka, leaves an unusually large amount of time for socialized and self-expressive activities of various kinds.

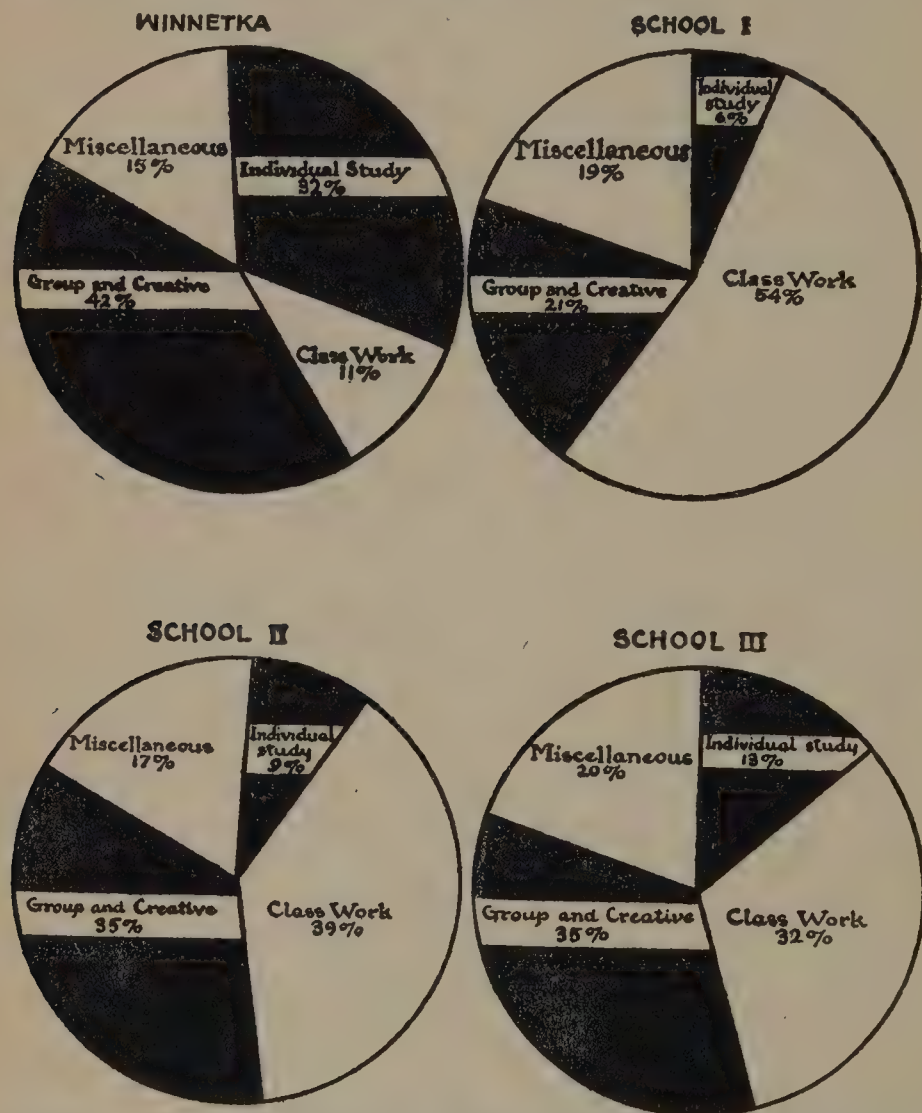


FIGURE 10.—DISTRIBUTION OF TIME IN WINNETKA, AS COMPARED WITH THREE SCHOOLS USING THE CLASS METHOD

School I is another public school system; School II is a nationally known experimental private school, specializing in group and creative activities; School III is the laboratory school of a large university. Note that while Winnetka has the largest proportion of time devoted to individual studies (32 percent), it also has the largest proportion of time devoted to group and creative activities (42 percent).

IV. DOES INDIVIDUAL WORK PUT CHILDREN THROUGH SCHOOL TOO FAST?

Because of the time saving element in individual work, fear has often been expressed that children will complete their elementary school work at too young an age and enter high school and college when too immature. Data on the Winnetka schools indicate that this danger (if it is a danger) can readily be avoided.

RESULTS OF AN AGE-GRADE CENSUS AT WINNETKA By CARLETON W. WASHBURNE

An age-grade census of the Winnetka schools in comparison with those of the three surrounding and similar suburbs, and with that of a university laboratory school, does not show an extraordinary amount of acceleration in Winnetka. This is indicated in Table 17 and Figure 11.

TABLE 17.—AGE-GRADE DISTRIBUTION AT WINNETKA COMPARED WITH FOUR OTHER SCHOOLS

	Percent Retarded			Percent Normal	Percent Advanced		
	Over 2 yrs.	Over 1 yr. not over 2	1 yr. & less		1 yr. & less	Over 1 yr. not over 2	Over 2 yrs.
School I	0.5	3.0	11.0	51.0	31.0	2.7	0.2
School III	0.4	1.8	20.0	52.4	25.0	0.4	0.0
School IV	1.0	6.0	22.0	53.0	18.0	0.5	0.0
School V	2.2	4.8	16.0	44.8	30.7	1.0	0.0
AVERAGE	1.0	3.9	17.3	50.3	26.2	1.1	.05
WINNETKA	0.4	2.4	11.6	55.7	26.5	3.0	.01

From these it appears that only 29.51 percent of Winnetka are under-age, as compared with 27.35 percent in the average of the other schools—a trivial difference; while the percent of 'normal' children, *i. e.*, those who are 'at age,' or who have apparently made a grade a year through school, is distinctly above the average in Winnetka.

These data do not quite tally with the study of progress in Winnetka given on another page. That study considered actual rate of progress over a period of two years, and included only children who

had been in Winnetka at least two years. It took no account of entering age, or of additional time a child might deliberately take, doing electives and special courses, in the junior high school. It showed that individual work in the common essentials saved time for many children. It did not show that the time saved on the common essentials is often used for special courses that fit each child's needs or interests.

There is a definite effort in Winnetka to keep children in the seventh and eighth grades of the junior high school until they are

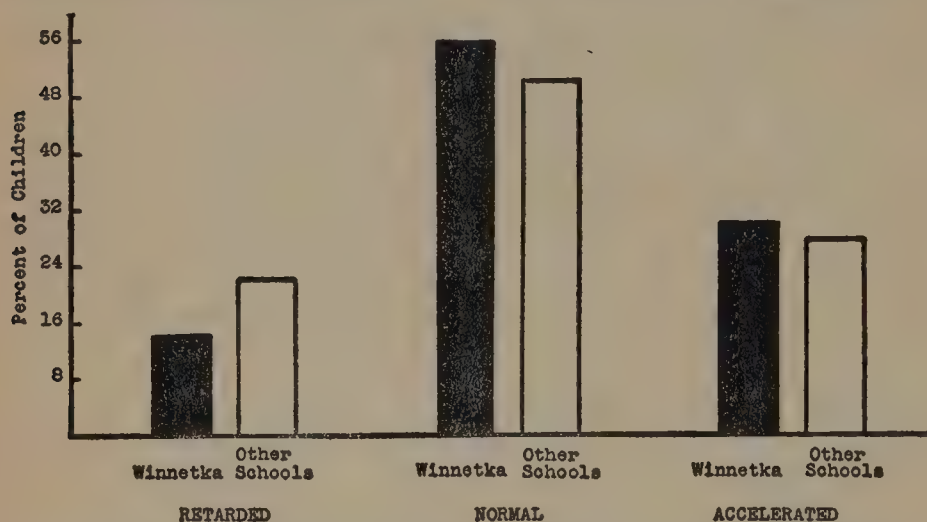


FIGURE 11.—AGE-GRADE CENSUS OF WINNETKA UNDER INDIVIDUAL INSTRUCTION COMPARED WITH THE AVERAGE OF FOUR OTHERWISE SIMILAR SCHOOLS USING CLASS METHODS

Note the lower percentage retarded, the higher percentage of children who are in normal grade for their age, and especially the fact that there are not many more children in Winnetka who are young for their grade than there are in the other schools.

mature enough for the senior high school. This retention is made feasible by offering a wide range of special and elective courses—some thirty such courses were offered on September 1, 1924; and several young children who had completed all required work the preceding June remained for a postgraduate year.

The median age of eighth-grade graduates from Winnetka in June 1924, was thirteen years and eleven months.

Individual work need not, in the light of these data, push children through school too fast.

V. DOES INDIVIDUAL WORK DECREASE RETARDATION?

One of the greatest single reasons for individual progress in schools is the large number of repeaters who clog schools everywhere, and who go out into life with a sense of failure. The percentage of over-age children is an index of the number of repeaters.

Under such plans of individual work as that used in Winnetka, failure and grade repetition become impossible. A child may need more than a year to do a grade's work; so there may be some over-

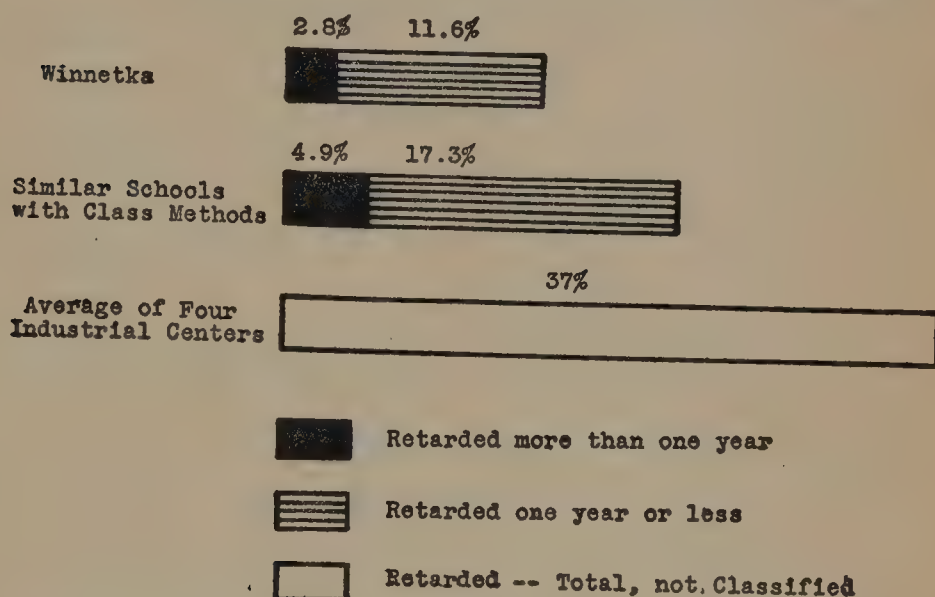


FIGURE 12.—REDUCTION OF RETARDATION BY INDIVIDUAL INSTRUCTION IN THE WINNETKA SCHOOLS

Note particularly the fact that the proportion of children retarded over a year is not much over half as great in Winnetka as it is in similar schools using class methods. The comparison with the average of four industrial centers is not quite fair, since the social composition of Winnetka is superior to these. The comparison to similar schools is a comparison with schools of equal or superior social composition to that of Winnetka and is entirely valid.

age children in an individualized school system; but they will be less over-age than as if they had had to repeat their grade's work instead of merely having to complete it. These theoretical considerations are borne out by the data from the Winnetka schools.

The age-grade census, referred to in the preceding section, by which Winnetka's children are compared with those of similar

suburbs and a university laboratory school, shows that these other schools, on the average, have half again as much retardation as Winnetka. The percentage of over-age children in Winnetka is only 14.4 as against 22.2 for the other schools, of similar social composition, and as against 35 to 40 for many industrial centers. This is shown graphically in Fig. 12.

Of the 14.4 percent retarded in Winnetka, 11.6 percent are from a day to a year over-age, and only 2.8 percent more than a year over-age. It would appear, therefore, that individual work and progress not only eliminates "failures" and "repeaters," but greatly mitigates over-ageness.

VI. IS INDIVIDUAL INSTRUCTION MORE OR IS IT LESS EFFECTIVE THAN CLASS INSTRUCTION IN TEACHING SCHOOL SUBJECTS?

Time could be saved and retardation decreased by the simple expedient of lowering standards. It is important to know whether individual instruction results in poorer work on the part of the child than does regular class instruction. Several studies in this connection have been carefully made and all indicate that individual instruction gives results at least as good as, and usually much better than, class instruction. Miss Mackinder's data are meager, but very interesting. Courtis presents a mass of convincing data, and the survey of the Winnetka Schools gives clear evidence that individual instruction in tool subjects is efficient.

A. DATA FROM LONDON

By JESSIE MACKINDER

Headmistress, Marlborough Infants' School, L.C.C., London

Since the fundamentals of a child's progress in the Senior schools are ability in reading and arithmetic, these two subjects were tested as described below.

The tests used were those made by Dr. Ballard and are to be found on pages 136 and 187 of his book, *Mental Tests*, published by Hodder and Stoughton, Warwick Lane, London, England, and also set out in *The New Examiner*, by the same writer.

By these tests the ability of every child in reading and in mental arithmetic was tested individually and in isolation.

1. The Reading Test

The test was explained to the child, and, using a stop watch, the examiner asked the child to read as many of the words as possible, as fast as he could. If he did not know a word he was allowed five seconds to consider it. Then he was prompted and told to proceed, and that particular word was counted an error.

It is agreed that, alone, this test is not a measurement of the child's ability to obtain information from the printed page, but a

child cannot gain that proficiency in the art of reading until he has considerable mastery of the purely mechanical part of the process. Young children gain fluency in reading by reading a large number of easy stories for the interest alone. So this test of speed gives a very good indication of the child's power of comprehension. If he did not comprehend enough of the meaning of a story to hold his interest, he would not read at all.

Ballard's One-Minute Reading Test

is me on at by so as an it or be
 to as he of in go up am if no we
 my ox do the and for but him
 are can she dog let you not was
 out try see mix cat now boy saw
 hit met top run man pet lot get
 did van bad red cap bee lit pin
 had ran pen nut big old yet rob
 gun leg fun lip new fog has sit
 sly wig mud box ink sat end cut
 pay fed who six lad wet dry cow
 his peg tin say cat any far set had
 kid pup fox ask egg cab ill use jam
 all pit got sad tea sky one yes fur
 act toe her our ten arm rock gone feel
 that rich till long flat this part foot
 made upon came mile back sand time
 said then wall into were done walk
 much loss seem went with come

The following norms were obtained by testing the children of 49 schools in London:

Age in Years	6	7	8	9	10	14
Boys' Score	13	33	53	72	85	115
Girls' Score	15	38	58	75	88	122

These norms were obtained when the large majority of children were taught by the whole-class method about 10 years ago.

When the children who had learned on entirely individual methods were tested, the following results were obtained, this year:

Age	6 yrs. 6 mos.	7 yrs. 4 mos.
Boys' Score	54	76
Girls' Score	61	77

These results are shown graphically in Figure 13.

The power of gaining information from a book was tested as follows: Every child read alone, without help, two or three pages from a simple history or geography reader which he had not seen before. Ten minutes was allowed for the reading. The children knew that they would be expected to read and answer in writing five questions on the matter read.

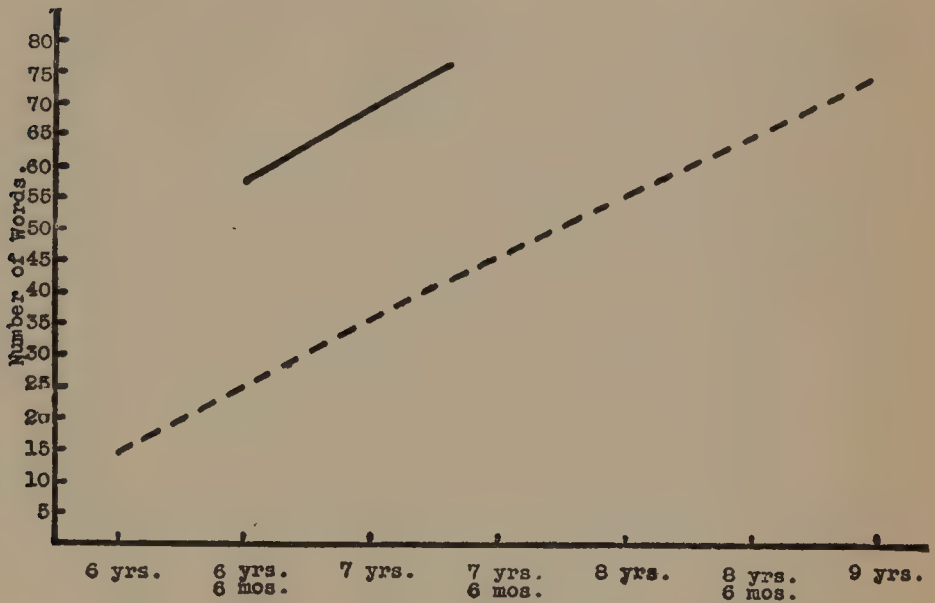


FIGURE 13.—EFFICIENCY OF INDIVIDUAL METHODS IN LONDON AS SHOWN BY THE BALLARD READING TEST

The solid line represents the number of sight words recognized by children who had been given individual instruction, as compared with the number recognized by children of equal age in schools giving class instruction (the dotted line). Read the graph as follows: six-year-old children under the class method read 15 words; children of six years and six months under the individual method read 56 words; seven-year-old children under the class method read 35 words, etc. Individual scores were not available for children of the upper and lower age ranges.

The children did not see the questions until the reading books were removed. The group of children thus tested included all those who were to be promoted to the Senior Departments (grades above primary—4th grade up). Their average age, at the time of testing, was 7 years, 6 months. The average mark gained was 4.3 out of a maximum of 5, one mark for each question correctly answered.

2. The Subtraction Test

Ballard's One-Minute Oral Substraction Test

(1)	2—1	(11)	8—2	(21)	11—2
(2)	3—2	(12)	7—5	(22)	10—6
(3)	5—1	(13)	8—3	(23)	12—3
(4)	6—2	(14)	7—4	(24)	11—6
(5)	5—3	(15)	9—3	(25)	12—5
(6)	2—2	(16)	8—5	(26)	13—4
(7)	7—2	(17)	10—4	(27)	15—9
(8)	6—4	(18)	9—5	(28)	14—6
(9)	7—3	(19)	10—3	(29)	17—8
(10)	6—3	(20)	9—4	(30)	16—7

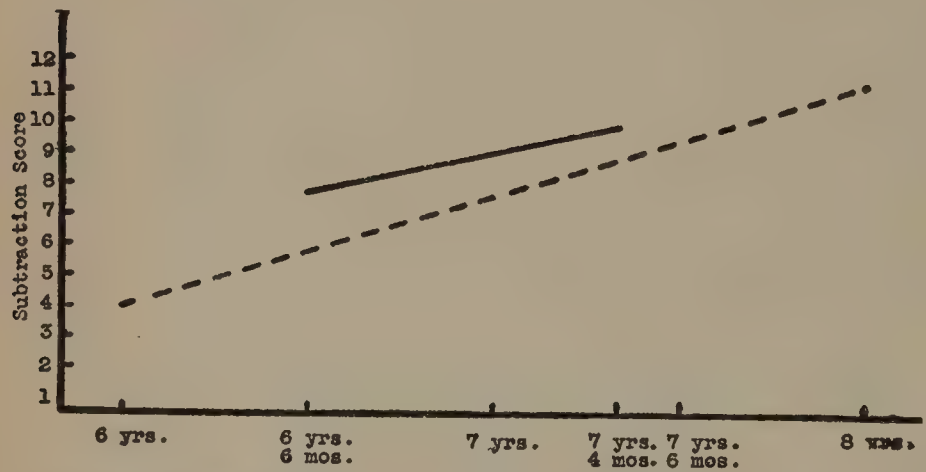


FIGURE 14.—EFFICIENCY OF INDIVIDUAL METHODS IN LONDON AS SHOWN BY THE BALLARD SUBTRACTION TEST

The solid line represents the subtraction scores made by children taught by the individual method; the dotted line represents the scores of children taught by the class method. Individual scores were not available for children of the upper and lower age ranges.

Again, each child was tested alone and individually. The examiner asked the question "One from two?" and as soon as he got the answer passed on to the next question "Two from three?" but the child was not allowed to pass on to the next question until he gave the correct answer. The following norms, obtained by Dr. Ballard, are based on the results obtained in testing about ten thousand boys and girls in schools in London and other English cities.

Age in Years	6	7	8	9	10
Subtraction Score	4	7½	11	11½	18

The Marlborough Infants' School tested all its six-year-old and all its seven-year-old children who had learned through individual methods, and obtained the following results:

Age	6 yrs. 6 mos.	7 yrs. 4 mos.
Subtraction Score	7.7	9.6

These results seem to indicate that this group of children who had learned to read by the individual method gained about 1½ years on the reading norm, but only about 6 months on the subtraction norm. This is very interesting when it is realized that some group work is taken in arithmetic, but none in reading. It might seem that the more individual the method, the more rapid the progress; but the writer does not think such a conclusion would be correct, because the reading apparatus available for these children is more self-explanatory than the number apparatus available.

The outstanding result, however, is to show that the children who had individual work excelled those who had class work, both in reading and in subtraction.

B. DATA FROM DETROIT

By STUART A. COURTIS

Detroit Teachers' College

1. Arithmetic

The characteristic effect of individualized instruction was clearly shown in the results secured by Assistant Superintendent Spain in the Detroit Schools in 1913.¹¹ The data for the comparisons in a single operation, addition, based on the results obtained in six experimental schools, were as shown in Table 18 and Fig. 15.

¹¹ *Seventy-first Annual Report of Board of Education*, pages 132-139.

TABLE 18.—COMPARISONS OF NUMBERS OF CHILDREN MAKING THE VARIOUS TYPES OF GAINS FROM MARCH¹² TO JUNE, 1913

Tests used, Curtis, Series B Arithmetic. Number of schools, six, two in each group. The numbers of children are expressed as percentages of the total children in their particular group.

Type of Change	Oral Drill	Regular Work	Individualized Drill	Average for Ten Regular Schools
Gains of three or more examples	22	35	53	26
Gains of two examples	37	32	27	33
Gains of one example..	27	22	16	30
No gain	13	10	3	9
Loss of one or more examples	1	1	1	2
Number of pupils tested	241	334	332	2450

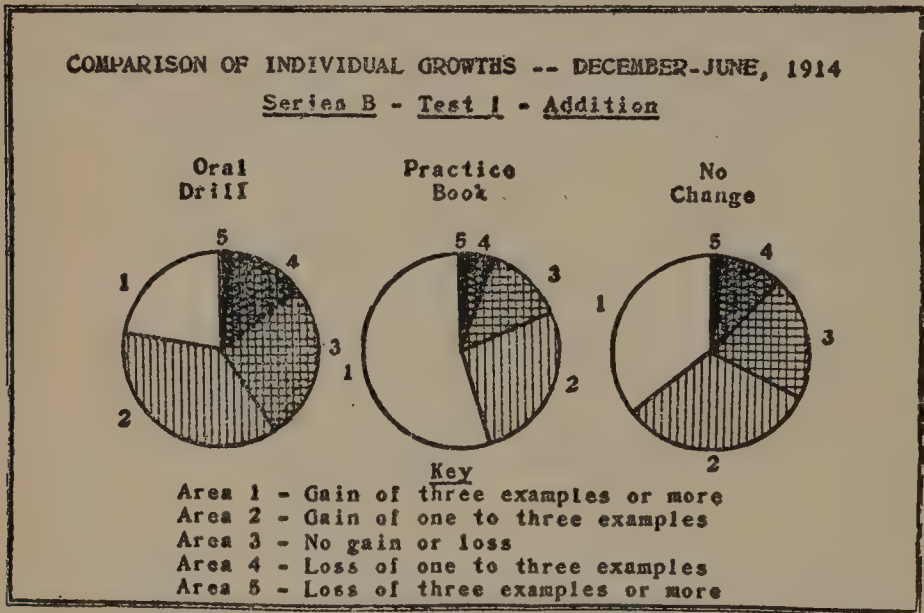


FIGURE 15.—COMPARISON OF GAINS IN ARITHMETIC AT DETROIT UNDER DIFFERENT METHODS OF INSTRUCTION

The effect of individualization of instruction is seen by comparing areas in the central figure, which represents the results when individualized materials were used ten minutes a day, with the corresponding areas in the other figures. The figure marked "oral drill" represents the results from schools which gave ten minutes a day to rapid mental drills; the figure "no change" those from schools following the regular program. The number of children gaining was increased and the number standing still or losing was decreased.

¹² Given as December in Fig. 15.—Editor.

In all six schools the same time was given to drill, ten minutes a day. In the "Oral Group" this drill was oral and of the rapid, mental-arithmetic type. Two schools, selected as equal to the others, made no change in their methods of work. The remaining schools used the Spain booklet and individualized instruction.

The effect of individualization was nearly to double the number of children making large gains and to decrease the number of children standing still or losing.

Under methods of mass instruction the percentage of children showing gains of any sort seldom exceeds 60 percent of the total. Individualization of instruction usually increases this figure to 85 percent. The failure of the remaining children to grow is to be explained by ill health, unfavorable home conditions, and similar factors beyond the school's control. The figure, 85 percent, thus becomes a type of standard. Averages may be raised by the overtraining of the specially able, but the measure of efficiency which most truly measures efficiency is that derived from a distribution of all the individual gains and losses within the group. Judged on this basis, many studies prove that individualization of training operates to increase markedly the percentage of children benefiting by drill.

2. Handwriting

A second important measure of efficiency is the level of average achievement in a city. The individualized material known as the "Standard Practice Tests in Handwriting" was perfected in 1918 and adopted for general use throughout the elementary schools of Detroit. Figure 16 shows the level of average achievement the year of the adoption, and the changes of level during successive years up to January, 1924. The curves are based on city-wide scores in the routine tests of the city. These and similar data in many lines prove that the adoption of individualized material, and its proper use, tends to raise the general level of efficiency.

3. Reading

As an example of more definite and more scientific measurement of increased efficiency due to individualization of instruction, a crucial experiment to determine the value of new materials and

methods of teaching reading in the lower first grade will be cited.¹³ One hundred eighty children in four schools were matched by pairs in age, sex, and intelligence with the children in four other schools judged to be equal in essential particulars to the first four schools. One group used the Picture Story reading lessons or practice tests while the other group were taught in the regular way.

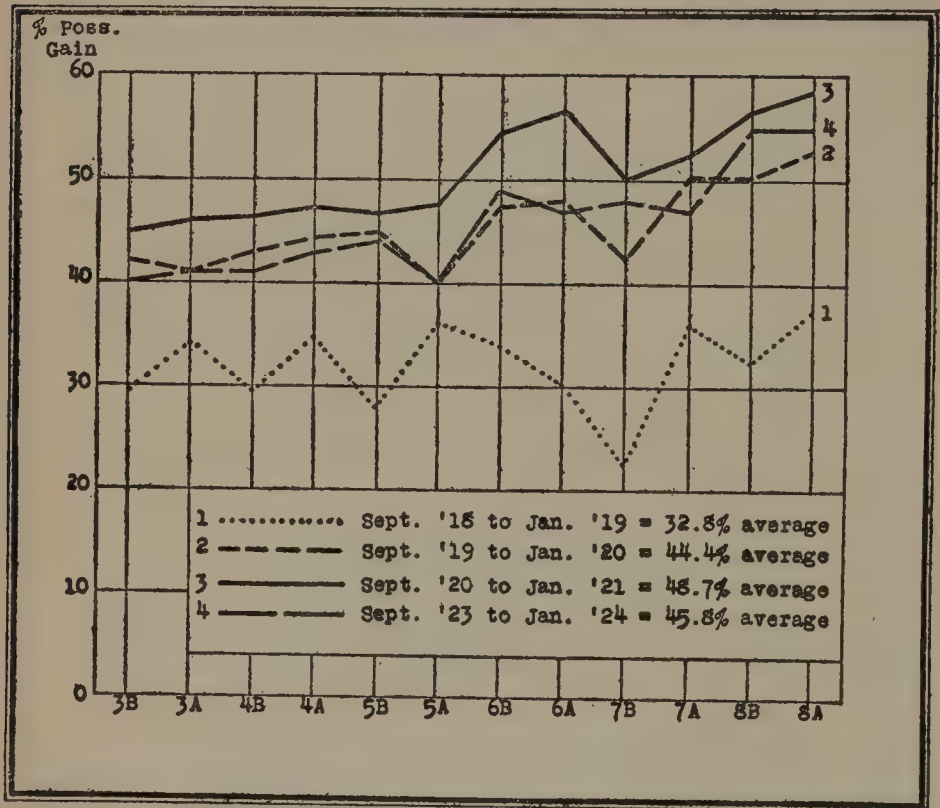


FIGURE 16.—GRADE AVERAGES IN HANDWRITING, CITY-WIDE, BY YEARS, BEFORE AND AFTER USE OF INDIVIDUALIZED LESSON MATERIAL

The results shown in Table 19 and Fig. 17 are from the final test, using a form of the Detroit Standard Group Vocabulary test, designed to measure results in reading in the first grade. Other tests used were the Gray Oral Reading Scale, the Haggerty No. 1 and 2, and a special Detroit Reading Performance Scale.

¹³ Mila B. Smith. "An experiment to determine the effectiveness of the Detroit Standard Practice Tests in Reading." *Journal of Education*, June, 1922.

TABLE 19.—MEDIAN SCORES OF TOTAL GROUPS

Test Used	Gray	Vocabulary	Haggerty		Word Picture
			1.	2.	
Experimental	46.8	26.3	4.6	4.3	2.1
Control	0	17.2	1.2	1	1.1
Gain	46.8	9.1	3.4	3.3	1

The results show that the control group was exactly normal. Its score in all tests except Gray's is almost exactly the average score made by the lower first grade in the city. The group using the

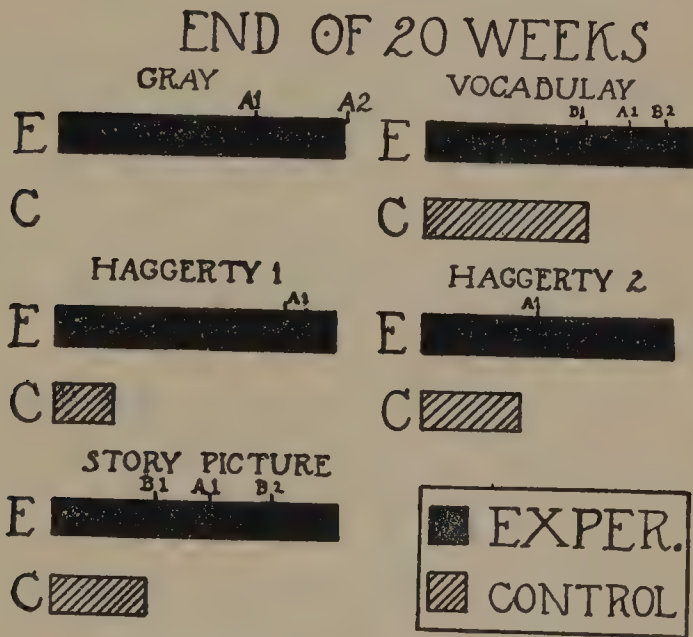


FIGURE 17.—MEDIAN SCORES ON STANDARD READING TESTS GIVEN TO TWO MATCHED GROUPS AT DETROIT

special material, however, made much greater gains. In twenty weeks (the duration of the experiment in both groups) the experimental group nearly made the upper-second-grade standard. In other words, the experimental group accomplished nearly four times as much as the control group.

A better measure of what individualization does for children is shown by the graph shown in Fig. 18. The difference in the number of books read by the various individuals may be seen by comparing the standardized and restricted product of mass instruction (the

part in black) with the extremely variable product of the individualized group.

4. English

Individualization of instruction, once started in a system, rapidly spreads because of its superior merit. As a final illustration of the increase in efficiency resulting from the newer methods, the follow-



FIGURE 18.—NUMBER AND GRADE OF BOOKS READ BY MATCHED GROUPS OF X INTELLIGENCE

The score equals the total number of books read by an individual. The figures along the base line represent the number of pairs. The figure is to be interpreted as follows: The brightest child in the group under mass instruction completed four books in 20 weeks, all primers; under individualized instruction, the corresponding member of the other group read 32 books, 16 primers, 14 first-grade readers, and two second-grade readers. Individuals Number 4 to 29, under mass instruction, read each two primers, while their matched mates under individual instruction read from 8 to 16 books each.

ing quotations from the *Detroit Educational Bulletin* for November, 1924, are given:

Two series of *Self-Help Remedial Lessons*, together with appropriate inventory and appraisal tests, have been prepared by Maude Bowles of the English Department.

One series deals with *Grammatical Forms*, and is designed for use in Grades 5 and 6; the other series deals with *Capitalization and Punctuation*, and is designed for Grades 5, 6, 7, and 8.

The lessons aid the pupil, first by revealing to him the specific phases of these abilities in which he is lacking, and second by providing him with practice materials to remedy his particular defects. Thus they provide for individual growth at individual rates.

From February to June, 1924, the material in mimeographed form was tried under controlled conditions to determine the degree to which use of these lessons increases pupils' abilities. Each one of the twelve teachers experimenting had two sections of the same half-grade, one the experimental, the other the control group. Both sections took the inventory and final tests in composition and in the special series which was being used. The duration of the experiment was four months.

Thirty minutes per week was the time allowed for this work, divided usually into two fifteen-minute periods.

Individual pupils in each experimental section were matched on the basis of intelligence letter rating and initial test score with pupils in the corresponding control group. Thus the following factors were kept as constant as possible: school, grade, teacher, time of training, intelligence, initial ability in specific ability trained. The material was the only variable.

Comparison was made of gains in (1) the test on Capitalization and Punctuation or on Grammatical Forms, (2) the score on the regular composition test, and (3) the number of errors made in the composition test.

The results are summarized in the following table:

SERIES ON CAPITALIZATION AND PUNCTUATION

	Cases in which Experimental gain was greater than Control gain	Cases in which Experimental gain was less than Control gain	Cases in which Experimental gain was equal to Control gain
Test on Capitalization and Punctuation			
Number of cases.....	68	19	5
Percent	74	21	5
Composition Test			
Number of cases.....	48	30	20
Percent	49	31	20
Errors in Composition			
Number of cases.....	52	31	17
Percent	52	31	17

SERIES ON GRAMMATICAL FORMS

Test on Grammatical Forms			
Number of Cases.....	50	28	18
Percent	43	34	23
Test on Composition			
Number of cases.....	40	31	21
Percent	43	34	23

The greater gain of the experimental group is seen by comparing the percentages in the first column with those in the second column. The superiority occurs not only in the ability in which training was given, but carries over to ability in composition, and particularly to the use of these forms in free writing and free speech. Thus the lessons do accomplish their purpose.

Over 97 percent of the pupils using the lessons voted to continue their use the coming semester. All the teachers experimenting also expressed a desire to use the lessons in both sections instead of one.

C. DATA FROM WINNETKA

By CARLETON W. WASHBURN

One of the main parts of the survey of the results of the Winnetka technique of individual instruction, under the Commonwealth Fund subvention, was a detailed comparison of the scores of Winnetka children on various standardized tests with those of the children in several comparable schools which used the class method. Altogether, about 28,000 tests were given. The children were compared by grades, by achievement groups, and by mental age groups in various subjects. The most satisfactory basis of comparison was by mental-age groups, since the intelligence levels of the schools compared differed considerably. Therefore, all Winnetka children whose mental age was seven but not yet eight, for instance, were compared with children of this same mental age in the other schools, entirely regardless of school grade. A summary of the results is given in the graph, Figure 19.¹⁴

It is obvious from Fig. 19 that in every subject, and in almost every mental-age group, the Winnetka children did better work on these tests than the average of the class-taught children of the other schools. One school (the university laboratory school) excelled Winnetka in silent reading rate; one school system (the other public school system studied) equalled Winnetka on the Cleveland Survey arithmetic test. Otherwise, Winnetka led all schools. And no

¹⁴ This graph differs from the corresponding one, published in the complete report of the Commonwealth Fund investigation, in that the Winnetka "Test" group and Winnetka "Supplementary" group have been lumped together, and a single midscore found. Spelling has been omitted, as the data are incomplete at this time.

other school made as consistently high a record in all subjects tested.

The tests used were as follows: for silent reading, the Burgess of them by the research worker in the presence of a competent, disinterested witness. The children tested in Winnetka numbered 674; in the other schools, 803.

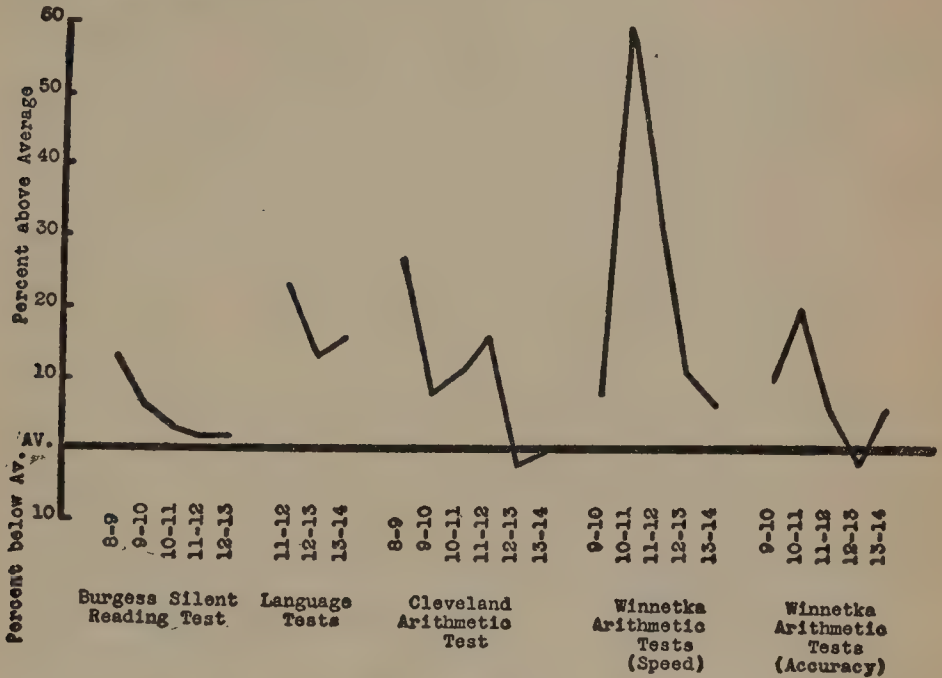


FIGURE 19.—EFFICIENCY OF WINNETKA INDIVIDUAL METHOD, AS COMPARED WITH CLASS METHOD

The horizontal line marked "average" represents the average score made by children in the Winnetka Schools, the public schools of a similar suburb, a private experimental school, and a university laboratory school. The various diagonal lines represent Winnetka scores. Read the graph as follows: Winnetka children of mental age of eight years, but not yet nine, made a reading score 13 percent higher than the average for this mental age in all the schools; Winnetka children of nine, but not yet ten, made a reading score 6 percent higher than the average; those of mental age of ten, but not yet eleven, 3 percent above average, etc. The Winnetka schools used individual methods, the other schools, various forms of class method.

The tests used were as follows: for silent reading, the Burgess Picture Scale, Form 4 (Russell Sage Foundation); for spelling (see footnote 14), the Iowa Spelling Scales; for language, the Pressey Punctuation and Capitalization Tests; for general arithmetic abil-

ity, the Cleveland Survey Arithmetic Tests (the last three all published by the Public School Publishing Co., Bloomington, Ill.); for diagnostic tests of speed and accuracy in arithmetic, the Winnetka Arithmetic Tests (soon to be published by the World Book Co.), and for mental age (intelligence), the National Group Intelligence Test (World Book Co.).

A detailed description of the full technique, and a discussion of the results, subject by subject, is being separately published.¹⁵ The data here summarized in one graph, however, definitely confirm those of Miss Mackinder and Mr. Courtis in showing that individual instruction tends to increase efficiency in the tool subjects.

¹⁵ Washburne, Vogel, and Gray. *Results of Fitting Schools to Individuals*. Supplementary Monograph of the Journal of Educational Research, Public School Publishing Co.

VII. DOES INDIVIDUAL INSTRUCTION COST MORE THAN CLASS INSTRUCTION?

By CARLETON W. WASHBURNE

In order to determine whether or not individual instruction is more expensive than class instruction, a graduate student at the University of Chicago, R. D. Judd, was induced to take as a subject for his Master's thesis "A Study of the Current Expenditures of the Schools in Three Illinois Cities." The three cities were Winnetka and its two neighbors on the north and south, Glencoe and Wilmette. The social composition of the three cities is almost identical; the median intelligence quotient is practically the same. The other two cities both have class instruction; Winnetka has individual instruction.

Winnetka has four distinct school plants. Wilmette, with a larger enrollment, has three plants; its central school is much larger than any of the Winnetka schools. Glencoe, with an average daily attendance of a little less than half that of Winnetka, has one single plant. This results in higher fuel and operating costs in Winnetka and in the necessity for a 'bus' transportation system to bring children from the outlying districts in to the junior high school. Neither Glencoe nor Wilmette has this expense. General control in Winnetka is more expensive than in the adjoining systems, involving, as it does, a higher paid superintendent and an assistant superintendent who receives almost as much as the superintendents of the adjoining school systems. Glencoe and Wilmette do not have assistant superintendents. In spite of these handicaps, the Winnetka schools spend a little less per pupil than those of Glencoe, while both Glencoe and Winnetka spend very much more per pupil than Wilmette.

There are two outstanding reasons for Wilmette's low cost. First of all, the salary schedule is lower; the average salary is about \$1586 as against \$1824 in Winnetka. In the second place, Wilmette has about 38 children to each teacher, while Glencoe has 26 and Winnetka 29. In the third place, the number of teachers in Glencoe and Winnetka for special work, such as playground direction, shop work, general science, and supervision, is more than twice as large

as it is in Wilmette in proportion to the enrollment. The Wilmette schools are fairly typical of other Illinois cities in the amount of their per capita expenditure, ranking at about the middle of ten such cities. The Glencoe and Winnetka schools are typical of other North Shore suburban systems, making use of the high assessed valuation of their districts to pay better salaries, to decrease size of classes, and to give a wider variety of instruction under special teachers than do most schools. The expense of Winnetka's schools can be attributed to these factors, which it has in common with its neighbor to the north, but cannot be attributed to the cost of individual instruction.

Glencoe	\$167.10		A.D.A. 484
Winnetka	161.94		1061
Wilmette	78.44		1331

FIGURE 20.—COMPARATIVE COST PER PUPIL IN AVERAGE DAILY ATTENDANCE FOR THREE NORTH SHORE SUBURBS (SCHOOL YEAR 1922-1923)

Of the two schools using class method, one spent a little more than Winnetka, the other much less. See, however, Fig. 22.

Figure 20 shows the relative total expenditure for 1922-23 per pupil in average daily attendance in the three towns. Figure 21 shows the distribution of the expenditures in all three cases.

R. D. Judd, in concluding his thesis, makes the following statement: "There are many items of expense in Winnetka which the other two systems do not have. If there is an economic waste occurring, it is taking place in many ways other than through instruction. In the light of the facts as shown, the writer does not think it is justifiable to say that the reason for the greater expense at Winnetka is the individual instruction plan. The individual instruction plan is not followed at Glencoe, as it is in Winnetka. Glencoe is spending about 69c of each dollar for instruction, while

Winnetka is spending a little over 64c.... Winnetka spends per pupil for instruction \$103, while Glencoe is spending \$115 per pupil for the same service."

It appears, therefore, that, while Winnetka is spending more per pupil than the average public school system, and more than one of its neighbors, it is spending a little less than is the neighbor which gives approximately the same service. No additional expense appears to be incurred through the system of individual instruction.

Another study, more recent than Judd's, being for the current school year, covering more schools, but less detailed in its analysis,

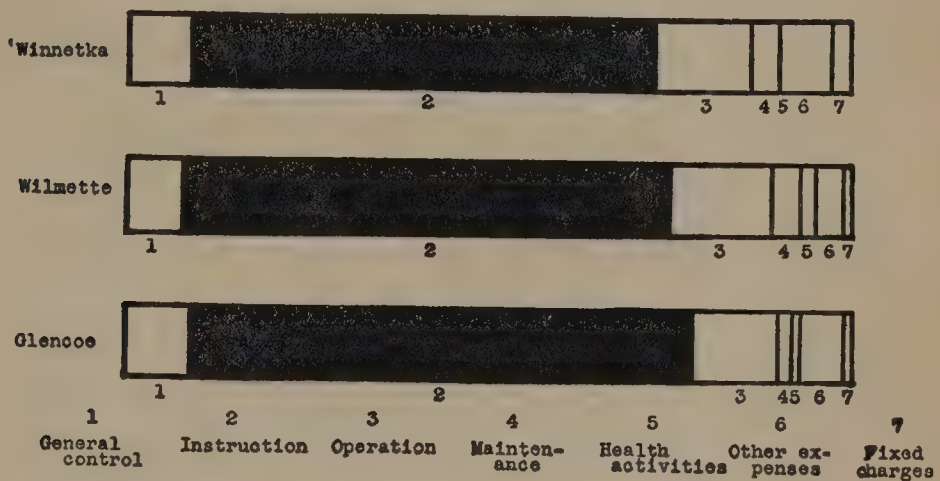


FIGURE 21.—DISTRIBUTION OF SCHOOL EXPENDITURES IN WINNETKA AND TWO OTHER NORTH SHORE SUBURBS

Note that the proportion of money spent on instruction is actually less in Winnetka than in class method schools, while the proportionately larger number of buildings makes operation, maintenance, and fixed charges somewhat higher.

yields interesting data for North Shore suburban schools. The suburbs form an almost continuous string along Lake Michigan—Wilmette, Kenilworth, Winnetka, Glencoe, South Highland Park (including Ravinia) and North Highland Park. In Table 20 and Fig. 22 these schools (except Winnetka) are simply numbered, in the order of their per capita costs. It will be seen that Winnetka occupies a middle position among them. The Winnetka schools are the only ones using individual instruction.

TABLE 20.—COMPARATIVE SCHOOL COSTS IN SIX NORTH SHORE SUBURBS
(SCHOOL YEAR 1924-1925)

	I	II	III	Winnetka	IV	V
No. children per class teacher	24	32	26	29	30	38
No. children per special teacher	100	97	76	76	125	179
Av. Salary—all teachers....	\$1920	\$1871	\$1950	\$1824	\$1839	\$1586
Cost of teachers, per child..	\$100	\$77	\$103	\$87	\$76	\$53
All other expenses, per child	\$121	\$142	\$60	\$69	\$59	\$41
Total per capita cost.....	\$221	\$219	\$163	\$156	\$135	\$94

The only other definite cost data are those from Los Angeles. There no special appropriation was made by the Board of Education

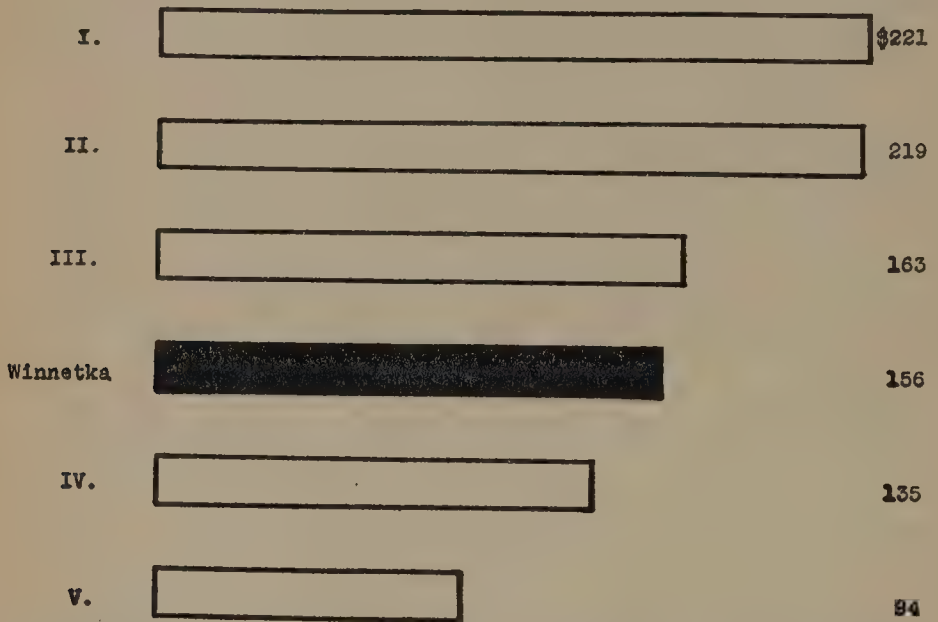


FIGURE 22.—COMPARATIVE SCHOOL COSTS IN SIX NORTH SHORE SUBURBS

Winnetka uses individual methods, the other five, class methods. Expenditures are based on enrollment for October, 1924, and are for the current year. Note that Winnetka occupies an intermediate position, showing no increased cost from individual instruction.

for the individualization of the Sixty-First Street School. The actual per capita cost in that school for 1923 was \$74.55, including 47 cents for individual materials from the research office. Of thirty-three schools of the same class and size as the Sixty-First Street

School, eight had higher per capita costs using class instruction than did the Sixty-First Street School using individual instruction.

It is unfortunate that we do not have cost data on individual instruction in more public schools which are typical in their total per capita expenditures. So far, however, we at least have no evidence of any experiment in individualization increasing school costs.

And *a priori* there is no reason why it should. The general technique described in the foregoing section of this *Yearbook* by various experimenters and that outlined in Section V do not call for any extraordinary expenditures. Most advocates of individual work, like most other people who believe in giving children adequate training, attempt to reduce class size to about thirty children. The eliminating of repeaters and the saving of the time of the brighter children will automatically tend to reduce class size. But individual work has been successfully carried out with large classes in Racine, Wisconsin, and especially in the Marlborough Infants' School in London, where classes range from 40 to 54 children to the teacher.

Inherently, therefore, there is no reason for individual instruction to cost more than class instruction. There is no evidence that it does. And in the two places where costs have been carefully studied, no increase due to individual instruction has been found.

VIII. DOES INDIVIDUAL INSTRUCTION PLACE TOO HEAVY A BURDEN ON THE TEACHER?

By CARLETON W. WASHBURN

Teachers often assume that individual instruction will require more work of them than does class instruction. If it were not for the self-correction technique and certain other time-saving devices, individual instruction probably would require much more outside time than does class instruction. But with proper safeguards it seems possible, in the light of the following briefly-reported study, to have individual instruction without overburdening the teachers.

All teachers in Winnetka and in other three schools with which Winnetka's efficiency was compared (a suburban public school system—School I; a private experimental school—School II; and a university laboratory school—School III) were asked to record for two weeks all work done outside of regular school hours. This work they were told to classify as: (1) Correction of children's work, (2) Preparation of materials and lessons, and (3) Making records of various kinds. The average number of minutes spent per day is shown in Table 21 and Figure 23.

TABLE 21.—OUT-OF-SCHOOL TIME SPENT BY TEACHERS IN WINNETKA AND ELSEWHERE

	Winnetka	I	II	III
Records	30	13	30	108
Preparation	37	25	134	41
Correction	43	19	105	88
Totals	110	57	269	237

This shows that Winnetka teachers do about 50 minutes a day more outside work than those of the other public school system (I), but less than half as much as those of the private experimental school (II), and the university laboratory school (III).

Apparently, individual work does not impose an undue burden on the teachers. This is borne out further by the fact that teacher turn-over in Winnetka has dropped from 25 percent to about 11 percent since individual work was introduced, and that no teacher has ever resigned on account of the individual system or the burden placed on the teachers.

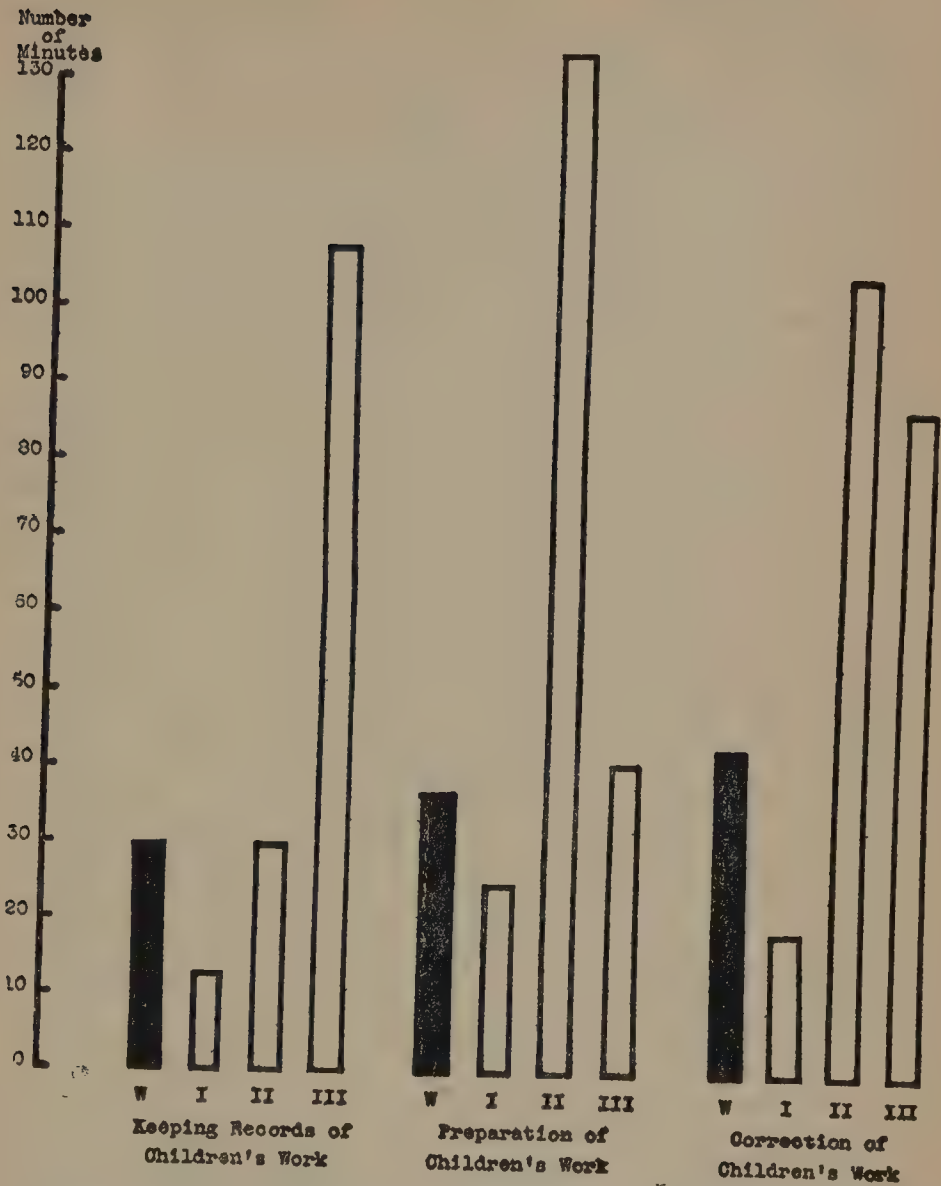


FIGURE 23.—OUT-OF-SCHOOL TIME SPENT BY TEACHERS UNDER INDIVIDUAL INSTRUCTION, COMPARED WITH CLASS INSTRUCTION

The heavy black column represents Winnetka teachers, Column I the teachers in another suburban public school system, Column II those in a private experimental school, and Column III those in a university laboratory school. The Winnetka teachers had more out-of-school work per day than those of the other public school system, but less than those in the other two schools. Winnetka is the only one of the four systems using strictly individual methods.

IX. HOW DOES INDIVIDUAL WORK IN THE ELEMENTARY SCHOOL AFFECT PUPILS' EFFICIENCY IN THE HIGH SCHOOL?

While the elementary school's chief function certainly is not preparation for the high school, parents will not wish their children to be at a disadvantage after reaching the high school. Theoretically, there is probably no adequate reason to suppose that individual instruction in the elementary school should unfit a child for successful class work in the high school; yet the question is often raised as to whether children taught individually in the grades will succeed in a high school where individual instruction is not carried out.

Our data on this question are meager. Individual instruction is not old enough in most places to have given conclusive evidence of its effect on children's high-school life. The San Francisco State Teachers' College experiment is the only one that has been in existence long enough to have sent children, trained entirely by individual methods in the eight grades, through the four years of high schools conducted on a class basis. Unfortunately, no adequate study has been made of the record of these children. Franklin Bobbitt, three years ago, spent three months studying the San Francisco State Teachers' College and the result of its methods. He succeeded in tracing about twenty children who had had all their elementary training under individual instruction and then had had regular class work in the high school. The records of these children in the high school were not especially distinguishable from those of the children who went to the same high schools from regular class-method elementary schools. They were not inferior; neither did they show any pronounced superiority.

The Winnetka Public Schools have yielded some statistical data; but the Winnetka experiment, while begun in 1919, was not fully organized with the necessary materials until at least the fall of 1921. The children who entered the high school in 1923, therefore, were the first who had even had the last fourth of their elementary training under the Winnetka technique of individual work. And these children have only been in the high school now a little over one year.

The conditions are excellent, on the other hand, for observing the results of the Winnetka training when children go to the high

school; for the Winnetka elementary-school graduates go to the New Trier Township High School, which is under a separate board of education and an independent superintendent. Children from three other suburbs, similar to Winnetka in social composition, go to this same high school. Two of the three suburbs spend more per child on education than does Winnetka; all three have the regular class organization. The children from all parts of the township are mixed together in the high school, so that teachers often do not know from which elementary-school system a particular child may have come. In most classes in the high school the regular class-method is still in force.

There is a research department at the high school which is watching closely the records of children from the various schools, and which has furnished the data for the following report.

A STUDY OF NEW TRIER HIGH SCHOOL FRESHMEN, INCLUDING
PUPILS WHO HAVE COME FROM WINNETKA SCHOOLS

By FREDERICK EDSON CLERK

Superintendent, New Trier Township High School, Kenilworth, Illinois

In order to determine whether or not students who have been trained in an elementary school organized on an individual instruction basis are as well prepared to do high-school work as students who have had the conventional group instruction, the following studies were made of students in the freshman class at New Trier High School in the school year 1923-24.

There are four villages and a rural section of Cook County that send elementary-school graduates to the freshman class at New Trier High School. Each of these villages and the rural section has its own elementary-school system. All of these school systems except Winnetka are organized on the conventional group instruction basis with only minor variations.

About midway during the second semester of the school year 1923-24, an effort was made in the high school to determine whether or not there was any difference in scholarship and personal qualities between the students who had come from the Winnetka schools, where they had about two years of instruction and school life under individual instruction, and the children of the remainder of the township who had had their elementary-school experience and in-

struction only in accordance with group methods characteristic of well organized, efficient school systems.

The first of the studies conducted in this connection was made in an effort to determine whether or not Winnetka children differed any from other children of the township in the high-school freshman class in such matters as self-reliance, dependableness, initiative, school loyalty, honesty, and ambition. The procedure and method of this study were as follows: To the teachers who were advisers of freshmen a questionnaire was distributed in which they were asked to indicate, with respect to the qualities mentioned above, the ranking of each of their pupils in terms of Very Superior; Good, or above average; Average, or fair; Poor, or below average; or Very Inferior.

Table I presents a record of the results of this attempt. It appears that there is no appreciable difference between Winnetka students and the others as far as this effort to find the difference, if any, is concerned. The difficulties of making this kind of a study, particularly when the students are not yet well known to the advisers, are fully realized and would account for differences greater than are actually reported. As far as a two-year experience under individual methods is concerned, therefore, it does not yet appear to have a marked effect on these qualities.¹⁶

TABLE 22.—COMPARISON, IN PERCENTS, OF WINNETKA AND OTHER CHILDREN IN RESPECT TO PERSONAL QUALITIES

	Children from Winnetka					Children from Rest of Township				
	Superior	Good	Average	Inferior	Very inferior	Superior	Good	Average	Inferior	Very inferior
Self-reliance	14	15	35	24	12	13	21	37	19	10
Dependableness	18	32	17	27	6	22	28	32	13	5
Initiative	3	19	56	12	9	4	21	49	19	7
School Loyalty	11	54	26	6	3	13	56	24	7	—
Honesty	24	27	39	8	2	27	35	33	5	—
Ambition	15	29	30	17	9	12	33	32	18	5

¹⁶A more objective measure of some of these qualities is the proportion of elective class offices held by Winnetka children after they reach the high school. For the school year 1924-25 20 percent of the sophomores came from Winnetka, but 50 percent (2 out of 4) of the sophomore class offices were filled by children from Winnetka. Eighteen percent of the freshman class came from Winnetka, but 75 percent (3 out of 4) of the freshman offices were filled by Winnetka children.—C. W. W.

Another effort to find differences, if any, between graduates from the elementary schools of Winnetka and graduates from other elementary schools in New Trier Township was made in the field of scholarship. The study consisted of two parts, one in terms of average grades in separate subjects, and one in terms of average grades in all subjects. Table 23 shows the distribution of New Trier freshmen by subjects on the basis of their grades during the first semester of the freshman year, and divided into two groups—those who graduated from Winnetka schools and those who graduated from other schools in the township.

TABLE 23.—PERCENTAGES OF CHILDREN FROM WINNETKA AND OTHER SCHOOLS RECEIVING VARIOUS GRADES IN VARIOUS SUBJECTS

	Children from Winnetka Schools							Children from the Other Schools of the Township						
	A	B	C	D	E	F	Weighted Av. Score	A	B	C	D	E	F	Weighted Av. Score
Math.	11	13	25	8	23	20	D (2.23)	7	21	19	18	19	16	D (2.31)
Eng.	3	10	17	26	27	17	E (1.87)	1	9	21	28	30	11	E (1.89)
Hist.		18	21	24	28	9	D (2.12)	6	17	23	23	17	14	D (2.32)
Lang.	4	21	7	32	32	4	D (2.21)	2	16	17	25	14	25	E (1.92)
Science	11	11	22	28	6	22	D (2.28)	7	19	13	24	25	12	D (2.24)
A, Very superior work								D, Fair. Low average work						
B, Superior work								E, Poor, but passable work						
C, Good. High average work								F, Failure						

While there are variations as between the two groups of pupils reported in Table 23, there is no outstanding difference between them—at least no greater variation than there is within the groups themselves.

The second part of the study made in this connection was planned with the view of determining, if possible, how the pupils in the New Trier High School freshman class who had come from the Winnetka schools compared with other pupils in the same class who had come from other elementary schools in the New Trier Township, in terms of average scholarship in all subjects.

TABLE 24.—PERCENTAGES OF WINNETKA CHILDREN COMPARED WITH THE PERCENTAGES OF OTHER CHILDREN RECEIVING CERTAIN GRADES IN AVERAGE SCHOLARSHIP ALL SUBJECTS

	Winnetka Children	Other Children
A	—	—
B to A—	7	4
C to B—	17	14
D to C—	22	25
E to D—	32	35
F to E—	21	22

While there does not appear to be any significant difference between Winnetka pupils and the others as far as scholarship in certain branches is concerned, it does appear from this investigation that the children from Winnetka have on the whole a better average scholarship rating than the children from the remainder of the township. Just how much this superiority in scholarship is due to the training the Winnetka children have received is a matter of speculation. It may be a chance variation, since we are comparing about 60 children from Winnetka with about 250 children from

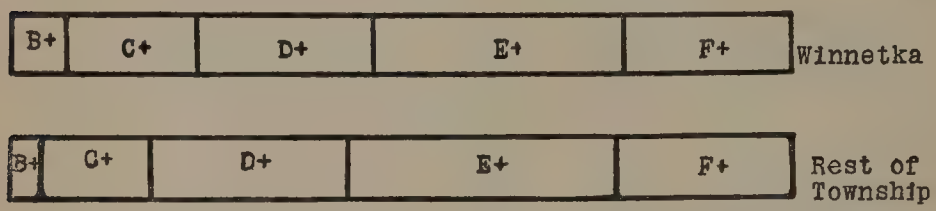


FIGURE 24.—COMPARISON OF GENERAL SCHOLARSHIP IN THE HIGH SCHOOL CHILDREN TRAINED UNDER INDIVIDUAL AND CLASS METHODS

A higher percentage of the Winnetka children, trained under individual methods, made marks of C or better, and a lower percentage, marks below C, than did the children from the surrounding suburbs, where the class method is in force.

other parts of New Trier Township. If this apparent superiority in scholarship cannot be attributed to the Winnetka training, it at least seems reasonable to say that the scholarship efforts of these pupils were not seriously inhibited by their Winnetka training.

Table 24 shows that there was a greater percentage of the Winnetka children in the higher scholarship groups, and a smaller percentage of them in the average and lower scholarship groups than was the case of the pupils from the other township elementary schools. The difference was slight, but certainly in favor of the Winnetka pupils.¹⁷

¹⁷ The "Honor Roll" is made up of those students having the highest grades each month. Of the 1924-25 freshmen, 10 percent from the rest of the township were on the honor roll in November, December, and January. The number was almost exactly the same from Winnetka, 10 percent November, 10 percent December, 11 percent January. Of sophomores from the rest of the township, 10 percent were on the Honor Roll in November, 11 percent in December, 10 percent in January; while of

That there are limitations to the extent to which the Winnetka school system may be judged by the results of this study will be apparent even to the most casual reader. For purposes of reliable comparison the groups are as yet too small, the Winnetka pupils have not yet had the specialized Winnetka training long enough to be influenced by it to a great degree, the method of this study is not sufficiently reliable to establish a basis of comparison in its present preliminary form, and the Winnetka children are not yet far enough into high school work to give much reliable evidence of their ability to handle it.

The observations in this study are offered only as a beginning of a continuous plan of observation and analysis, with a view of perfecting such a plan of comparison and to discover as early as possible any marked differences in pupils coming from Winnetka as compared with other pupils and to evaluate these differences as they appear. So far the differences seem to be no more marked than chance differences might be, but whatever differences there are seem to be in favor of the Winnetka pupils.

sophomores from Winnetka 10 percent made the honor roll in November, 10 percent in December, and 15 percent in January. These data, a year later than those given by Mr. Clerk, bear out the general conclusions of Mr. Clerk's contribution.—C. W. W.

III. SUMMARY OF STATISTICAL RESULTS

Very briefly, the answers to the nine questions raised in this part of the *Yearbook*, as given by various statistical investigations, are as follows:

1. *Do pupils fall into natural ability-groups?* No. Ability-groups can be formed and will make better adaptation to individuals than will undifferentiated mass instruction. But the range of ability and progress in each supposedly homogeneous ability-group will soon be much greater than the differences between groups. Ability-grouping does not satisfactorily solve the problem of adjusting the schools to individual differences. The evidence on this point is adequate and conclusive.

2. *Does individual work save time?* It saves time for the faster children and probably also for those who would be repeaters under the old system. In demanding that each child master each step, it probably slows down the progress of some children who are just below average ability. And there is not clear evidence that it saves the time of the "average" pupil. For at least 50 percent of children, however, it does save time.

3. *Does it provide more time or less time for social and self-expressive activities?* The only statistical evidence on this point is that of the Winnetka schools. These schools certainly provide for more time for socialized and self-expressive work than do most others.

4. *Does it put children through school too fast?* Again, the only concrete evidence is from Winnetka. The percentage of under-age children there is only slightly higher than in similar schools conducted by class methods; and the median age of 8th-grade graduates in June, 1924, was 13 years, 11 months.

5. *Does it decrease retardation?* All studies indicate that it probably does. The Winnetka survey shows only 14.4 percent of children over-age, as compared with an average of 22.2 percent in schools of similar composition using class methods.

6. *Does it increase efficiency in tool subjects?* A small study in London, and elaborate ones in Detroit and Winnetka, all indicate that efficiency in the tool subjects is definitely increased by individual instruction.

7. *Does it cost more?* Such data as are available indicate that it does not.

8. *Does it place a heavier load on the teacher?* Data are inadequate. The Winnetka study indicates that Winnetka teachers spend more time per day on correcting papers, preparing materials, and keeping records than those in a typical public school (about $1\frac{3}{4}$ hours in Winnetka, about 1 hour in the public school system compared), but much less time than those in the private experimental school or university laboratory school studied.

9. *Does individual work in elementary schools increase or decrease efficiency in high school?* Data are inadequate. Such as there are indicate that pupils trained under individual methods are at least as efficient in the high school as those trained under class methods, even when the high school uses class methods.

In conclusion, more data are needed to answer a number of questions definitely. There are enough data, however, to make these conclusions reasonably safe:

Ability-grouping does not adequately provide for individual differences; individual instruction saves the time of many children; it tends to raise the level of efficiency in the tool subjects.

IV. THE VALIDITY OF THE CONCLUSIONS FROM THE STATISTICAL DATA

By B. R. BUCKINGHAM

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When Dr. Washburne first suggested that I write a criticism of this part of the *Yearbook*, his emphasis was upon the validity of the statistics rather than upon the validity of the conclusions. His later emphasis seems to me to be wiser. On the former basis, I should perhaps have felt called upon to discuss points of statistical technique—and such a discussion, at least as I should have to handle it, would be pretty barren.

As to the conclusions, however, I wish to say at the outset that it seems to me that, so far as they are capable of being based upon statistical data at present available, they follow reasonably well from the figures presented. I should like, however, to point out that there are important considerations on which these statistics throw no light. The main conclusion undoubtedly is that “ability-grouping does not adequately provide for individual differences.” The principal non-statistical question which this conclusion raises is that of adequacy. When Miss Ward and her co-authors disclose the fact that 99 low-first-grade children varied from 4 to 162 days in accomplishing the same amount of work, it is held by the chairman, and it would be held by anyone, I should suppose, that this constitutes an enormous range of variation—a range which, if it existed in a given classroom, would make effective group teaching out of the question.

If, however, we divide the pupils into three groups, as is done in the graph shown in Figure 4 of this section, placing the lowest third in one group, the middle third in another, and the top third in another, we manifestly reduce greatly the variation. The most capable group, however, would, as Dr. Washburne points out, still range from an ability to master the work of the grade in four days to an ability to master it in 50 days. The median child among these most capable children required 32 days to reach the goal of the grade in reading. If the rate of teaching were established at 32 days for the work of the grade, it is clear that approximately half the pupils of the group would be working at less than their natural

rate while approximately half of them would be working at a speed greater than was natural to them. Whether and to what extent a portion of the injurious effects of retarding the bright half of the group could be met by requiring a higher standard of performance, whether and to what extent the injurious effects of accelerating the less capable half could be met by reducing the requirements, and finally whether either of these procedures could be introduced without so modifying the teaching that it ceases to be group teaching, are questions which the data in hand do not permit us to answer.

When is instruction individual? In a sense, all instruction is individual. No elementary-school teacher fails in some degree to individualize her instruction. Perhaps the purest form of group teaching is the lecture type which we find practiced so frequently in colleges and universities. But this type of teaching does not make its appearance in the elementary school, although heaven knows the teacher, even in the elementary school, often monopolizes, after the manner of a monologist, the greater part of the class period. The fact, however, is that all elementary teaching, as soon as it singles out this pupil or that to react in a definite fashion, is a sort of individual instruction. When, therefore, does the instruction become so definitely personal in its character as to merit classification as individual? On this question, there is no answer in this section of the *Yearbook*. It is apparently the kind of instruction which goes on at Winnetka, at the San Francisco State Teachers College, at Detroit, and at Miss Mackinder's school in London.

I should like to see an experiment tried in which the amount of individualization of instruction would be varied for different groups of children from practically zero, as in the lecture method, to as large a proportion of the total school service as obtained, say, at Winnetka. The statistics of progress in relation to ability on the part of groups taught with these varying degrees of individual appeal would be decidedly illuminating. It may very well be that individual instruction as conducted in the centers I have mentioned may be superior to the mass teaching usually employed in the schools. Yet it may also be true that a lesser degree of individualization may be still more beneficial. Similarly, a greater degree of individualization may be desirable.

Accordingly, I should like to make the point that these statistics,

though they convey a rather clear message, have at bottom a crudely dichotomous classification which should be replaced by a finer gradation approximating the continuum which the quantity "amount of individualization" undoubtedly is.

Moreover, when it is said that ability-grouping does not adequately provide for individual differences, there is implicit in the statement the notion that there is necessarily some *opposition* between ability-grouping and this other method—namely, individual instruction—which is found to be so efficient. Such, however, is not the case. Again, consider Figure 4 once more: if the 99 children shown in the lower first grade as varying so widely are divided into three groups without any reference to ability, we shall have classes whose variability approximates that of the entire group—a variability represented in this instance by a range from 4 days to 162 to accomplish the same result. On the other hand, if the 99 children are divided into three classes—upper, middle, and lower—on the basis of ability, the range in days required to accomplish the same result would only be as follows: for the fast group, 4 to 50 days; for the middle group, 52 to 69 days; for the slow group, 70 to 162 days.

Now, no one will say that by the latter arrangement teaching procedure has not been made easier, and this is true whether the teaching procedure takes the form of individual or class instruction. Accordingly, ability-grouping, instead of being regarded as an inferior competitor to individual instruction, may, if we choose, be regarded as an effective help in individual instruction. By subdividing 99 pupils into three ability sections, it would seem that we reduce the variation in a given class to more nearly workable dimensions; and this fact should have a favorable influence, whether, subsequent to this ability-grouping, the teaching is on a class or an individual basis. It seems to me, therefore, that neither statistics nor logic justify an abandonment of classification so much as a regard for it as a step toward that more accurate adjustment of materials and methods to the personal needs of pupils which is called individual instruction.

I see in the treatment of the data in this section a rather naive notion of statistical classes. I have already alluded to the idea that one may draw a line and say, "On this side is individual instruction

and on that side is class instruction." I have already pointed out that the individual element in instruction in reality varies continuously from zero to an undetermined maximum—a maximum probably represented by the pure tutorial method of teaching. The failure of the statistics in this section to recognize the existence of continuous variation in certain functions leads to the erection of a man of straw when the question is asked: "Do pupils fall into natural ability groups?" After measuring the abilities of children, whether in psychological characteristics (Los Angeles) or in school achievement (Los Angeles and San Francisco), the authors call upon us to observe that "there are no clear-cut ability groups." To our supposed astonishment, we are confronted with the fact (which evidently is expected to throw us into some confusion) that "children are distributed evenly in each subject and do not bunch appreciably at any one place." Do we not know that when we use such terms as 'bright,' 'average,' and 'dull,' or 'fast,' 'medium,' and 'slow,' we do so merely in order to facilitate talking and thinking about a function which we know quite well to be continuous from very low to very high? It is not at all necessary to discredit the classification of pupils by this means. No one ever supposed that the bestowal of a name upon a group of pupils and the placing of them in a room together was either based upon a dead level of ability or created, by some magic, an unvarying ability within the group in question.

Let it not be for a moment supposed that I am arguing for the superiority of classifying pupils instead of applying to them the degree of individualized instruction which is in operation in the cities to which our attention is called in this section. Not at all. I am concerned, however, first with any technique which will be an improvement over present methods, even though it does not prove to be as good as some other technique more difficult to apply; and second, with the fact that classification, instead of being hostile to individualization, is in reality its ally.

Certain minor conclusions are reached in this section, and the sufficiency of supporting data varies considerably with reference to these conclusions. It seems to me that on the question of whether individual work saves time, the conclusions are well buttressed by the facts adduced. Moreover, it is said that other data, presented elsewhere in this volume, contribute to this conclusion. The data of

other sections are unknown to me, but, merely on the basis of the statistics offered in this section, it seems clear that time is saved (see especially the article by Miss Ward *et al.* and by Washburne); and that this saving is particularly apparent in the case of the more capable children.

Immediately, however, arises a bogey man in the shape of the question: "Does individualized work put children through school too fast?" When one stops to think of it, this question is at bottom absurd, and the position in which the chairman places himself in raising it, is somewhat delicate. On the one hand, he wants to show, and does show, that individual work saves time; moreover, that it saves time for the bright children. On the other hand, he feels constrained to show that pupils do not get out of school too soon. This balancing on a knife edge between saving time and not saving too much time is interesting. I can guess how it comes about. There is a large group of school people who do not believe in permitting pupils to finish school at an early age. They will have none of individual instruction if it is going to produce twelve-year-old graduates from the elementary school—and this despite the obvious fact (which many of them will admit) that many children can complete the elementary course of study by the time they are twelve. Therefore, in order that individual instruction may not lose friends, it must be shown that pupils do not go through school too fast when they are brought under its influence. Now, the evidence here presented is to the effect that children save time, especially the bright ones. Then they must get through school sooner than would otherwise be the case. Whether in so doing they go through school "too fast" depends upon the standard of speed which we apply. But if for these bright pupils the course of study is made richer—and I do not understand that there is anything in individual instruction to preclude this—then it may well be that better training will be provided. There is nothing sacrosanct about the present standards of knowledge and skill in the public schools. If individual instruction gets children along faster, we can either give them more to do without letting them out any sooner or we can take the gain in an immediate saving of time. In the latter event, all the disadvantages about which timid teachers are so nervous will disappear as soon as a goodly number of pupils receive the same benefit.

Some of the conclusions stated in this section are insufficiently supported, and this has generally been duly recognized. The data, for example, on the influence of individual instruction upon retardation are insufficient. The amount of retardation in Winnetka is indeed small (14.4 percent). It is less than that of school systems in surrounding and similar suburbs. It is very much less than that of school systems in industrial cities. How much, however, of the differences in favor of Winnetka are due to other conditions than individual instruction, the statistics do not permit us to say. Merely to erect in the consciousness of teachers the ideal of reduction of retardation is to set up a condition favorable to reducing it.

For my part, however, I feel that the quantitative data presented in this section are significant. In my judgment they justify the belief that individualized instruction has thus far rendered a good account of itself.

SECTION IV

PROBLEMS INVOLVED IN ADAPTING SCHOOLS TO INDIVIDUALS

The need for individual work has been brought out; typical experiments have been described; certain questions have been answered in the light of scientific evidence. In this section are discussed a few of the problems involved in individualizing schools. For the most part, scientific evidence is not adduced herein; it is perhaps just because we lack statistical data on many of these questions that they become problems.

What sort of curriculum becomes possible under individual methods? What sort of textbooks and tests should be used, and how can we make shift with what we have? What sort of program or daily time schedule should be followed? Should children be kept together in classes, with differentiated assignments, or promoted by subjects and individually? How large should classes be? How much supervision should children be given during their individual work? How can the attitude of teachers be changed so that they can make individual work a success?

None of these questions can be answered categorically; each one can bear careful thought. It is to provoke such thought that this section has been prepared.

A. INDIVIDUALIZING THE CURRICULUM

In the foregoing sections of this *Yearbook* the curriculum has received scant attention. Some of the plans presented in the Section II simply made use of the traditional curriculum as they found it; others differentiated the curriculum to some extent, giving extra assignments to the brighter children. One or more of the plans has involved the use of the results of research in determining the common essentials of the curriculum, and has added to these, various group and creative activities for fuller development of each child. None has completely reorganized the curriculum, *i. e.*, changed it from a learning curriculum to a curriculum of functioning. Bobbitt, in the following pages, shows some of the future possibilities of the curriculum under the individual method.

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The facts relative to the actual curriculum of schools employing individual instruction are being presented by those responsible for the work. It is my purpose here to present only what appear to be certain facts, or at least probabilities, as to ways in which the curriculum might be improved through the use of individualized education.

Our profession is inclining more and more to the belief that education of maximal effectiveness is to be accomplished through the experiences of normal living. And normal living is mostly an individual matter. This does not mean that it is solitary. Much of the time one does his part within a social situation; and yet his is an individual, voluntary, self-directed part.

A girl is to be trained, let us say, to perform the practical occupations of the household: certain home-cooking, home-sewing and mending, laundry, household ordering, cleaning, marketing, etc. These are the activities of individual homes and they differ from home to home. They are not done *en masse*.

The only sane way to train a girl to perform household labors is

primarily to have her perform household labors in her own home under the normal conditions of that home. She may be associated with her mother or sisters. They may divide the labor somewhat; but it is individual work none the less.

The girl who is getting her individual training through the performance of these labors will perform them in the main through self-direction. School and parents may have to exercise certain stimulations or pressure; but the details of the action will have to be mainly self-directed. Parents and teachers will assist her to know what to do and how to do it; they will exercise certain supervision; and they will award recognition in proportion to meritorious accomplishment. These are matters, however, that are to be employed by way of *conditioning* the girl's own self-direction.

In the conduct of her labors of cooking, sewing, marketing, etc., she needs to be guided by information, some of it quite complex and technical. It is the function of the school particularly to assist her in securing this information. Some of it will be given in the form of talks by the teacher and demonstrations in the laboratory. Much of it is equally needed by all of the girls and can be given to them all at once as a class. In working the information over in various ways a certain amount of discussion and problem-solving will be employed. This also must be group or class activity.

But these class activities are merely accessory and preparatory to the actual fundamental activities of the home itself which necessarily are individual. And in the giving of the information, much of it should be focussed on the specific difficulties met with in the particular homes by the individual girls. Much of it certainly must be individual conference of mother, daughter, and teacher. Much of the reading and study of the girls relative to the particular problems must be individual as they meet with those problems.

We have taken an illustration where it is quite obvious that most of the fundamental training experiences must be individual, and where much of the accessory or preparatory training experiences must also be individual. The illustration, however, is typical of the entire content of functional education in all of its aspects. We are coming to believe that one hundred percent of education should be devoted to training individuals to do things. It is not a mere academic mastery of a few academic skills and several bodies of aca-

demic information. It is rather a preparation of men and women to do the numerous things which make up the totality of human life.

All of the activities which make up human life are just about as individual as the home occupations. As one cares for his health, it is a matter of self-directed right living twenty-four hours of the day and every day in the year. It is a problem for each individual according to his nature and situation. The physical upbuilding and maintenance must in the main result from what one himself does, and from the habits which he himself forms. Here, again, the school can give certain general information and advice, and can do this class-fashion. Much of the information and advice, however, needs to be fitted to the individual needs, and must therefore be individually given. But the normal living which in time constitutes good habits, and results in the development and maintenance of the physique—all this is necessarily an individual affair.

If one is to be trained to read current publications by way of keeping abreast of human affairs and problems, and by way of maintaining a clear vision over human society in all of its complexities and relationships, quite obviously the training must come from an abundance of self-directed, spontaneous reading of newspapers, magazines, and books. This can have no resemblance to the reading of normal living if great masses of individuals must be assigned the reading at the same time, in class fashion, of the same newspapers, the same magazines, and the same books. If it is all mechanized and directed in this manner, the spontaneity of the experience is lost. It can be neither normal nor effective. Individuals may be driven through such a course; but the results must be quite the opposite from those intended. The desired habits will not grow up out of such experience. Such vision as may be obtained of human society will tend to be perfunctory and non-vital.

The individual is social-minded and he will not develop and maintain this vision in most cases without a certain amount of discussion of matters met with in his reading. And he can profit from the interpretations of those who are older and wiser than he. There appears, therefore, to be a place for the group activity of discussion of the social topics and problems, and a place for listening to lectures or talks by his teachers. It must be noted, however, that these are supplementary matters and can not exist in proper form except as the

fundamental, individual reading experience lays the broad and solid foundations.

In the same way the genuine reading of literature, whether it be in the English language or in a foreign language, must be at bottom an individual matter and in the main self-directed. There is here, too, a place for certain general stimulations and direction which can be managed class-fashion. And yet, after all, this is merely accessory and preparatory. The fundamental experiences, to be normal, must be individual.

Natural science from the point of view of human functioning can be seen as a *viewing* by the individual of the things, forces, and phenomena which make up the natural world. This observation should be both direct and indirect and it should be continuous as a growing, expanding, and deepening thing through the years of childhood, youth, and manhood. Just as with the reading of current publications, this continuous science observation of one's environment, near and far, must be spontaneous, voluntary, and self-directed, or it will not be done. An activity of this sort is so subtle and subjective that it can not be compelled.

And yet, of course, there is a certain revealing of reality which can be accomplished through demonstrations and lectures in the laboratory or through pictures and diagrams; and there are problems which can be developed and illumined through group discussion. Then, too, there is the stimulation which comes from the introduction of the social motive. These matters can be accomplished in class. But such experiences must be looked upon as auxiliaries to the fundamental experiences of current and continuous direct and indirect observations of natural phenomena. They are preparatory and supplementary.

We have illustrated rather fully, since it is the concrete examples which best show the indispensability of individualizing experiences if they are to be of normal type. Let us now summarize:

Education is accomplished through two types of activity on the part of the pupils. On the one hand, there are the fundamental experiences of normal living. These must be the basic means of education; and most of them must be individual or they are not normal. On the other hand, there are activities which are merely preparatory to the fundamental activities—the assembling of certain ideas

necessary for guidance, sometimes preliminary drill by way of developing a certain initial skill, and the like. In almost every field of education a portion of these preliminary matters is general in character and needed more or less equally by all of the pupils. For the sake of economy and for the sake of introducing the social motive, it seems they can largely be managed by groups or classes. The application of these matters, however, in the fundamental experience is almost always an individual matter; and oftentimes there is need of special kinds of information and special kinds of drill on the part of the individual by way of meeting his special problems. As a consequence, this preliminary information-giving and drill needs in part to be an individual affair.

The full humanizing of the individual comes quite largely from contact with vigorous, inspiring, high-minded personalities. Teachers of this latter type can extend their influence and economize their labors by dealing with pupils in classes for a certain portion of the time. This is a matter on which we have so little quantitative information that it is impossible even to guess whether the amount of time should be small or large. The probabilities are that quality is of more importance than the amount of time.

And then there is the need of pupil association as they participate in their numerous activities. Whatever one's experiences, if they are vital, it is human nature to talk them over with others; and it seems that this is necessary for turning them over in mind, seeing their significances and relationships, and otherwise digesting and assimilating them. This, too, requires group activities—mostly small groups, and best when spontaneously formed. This expression is a very subtle thing. It must be spontaneous or it is neither normal nor effective. And to be spontaneous, although part of a group affair, it must be individual expression which grows naturally out of individual experiences. It can not be a mechanized and assigned affair. It is a matter of individual activity within a social group.

As one attempts to formulate the curriculum of functional education, it seems desirable to include both individual experiences and group or class experiences. It seems, however, that the experiences of dominant and preponderant types should be those of individual character; and that even where we have group activities, much of

the time the activities must be fully spontaneous and individual, even though manifesting themselves within a social group.

We are not saying that those schools where individualized education is being developed have yet been able to go as far as we have indicated in the direction of a thoroughly functional education. For the most part, they have not been able to do so. The thing we are saying, however, is that, as we functionalize the curriculum, we certainly shall be compelled to move in the direction of individualizing our education, and corresponding away from the mechanized, uniform, mass handling of impersonal human units in academic study and recitation. The individual plan, in which there is a sufficiency of group activities, will permit the functional curriculum, whereas the mechanical lock-step plan is one of the greatest obstacles in the way of developing a functional education.

Now, it is possible for a school in which there is individual instruction to hold to an ancient, reactionary, academic program. It can lay out the content of the older type of curriculum into definite units of work. It can provide teaching and testing materials to cover each of these units. And thus it may have merely another plan for doing the ancient thing. It may merely claim that it can do it better by letting each individual go his own gait. It must be noted, therefore, that the plan of individual training does not necessarily carry with it an improved type of curriculum. We wish here only to point out that it *can* be so employed when we wish to do so, and that the mechanical class-teaching plan does not lend itself to such improvement.

In a rational system of education there can be no such thing as uniform standards to be achieved equally by all pupils. It seems that each should be assisted and encouraged to go as far as he will, so long as he is developing his powers in a balanced or proportioned way. This latter requirement will prevent anyone's overdoing the training along any of the specific lines. When stated in this way, it appears to be practically impossible to fix quantitative standards of achievement for any individual. He has to be tried out to see how far he can go before we can discover what is normal and appropriate for him. This diversification is possible with a well developed system of training which is both functional and individual. In assisting each individual to go as far as he will or as far as he can,

without injury, it is discovered that in developing necessary skills, for example, one individual will require a fairly large amount of drill, while another will achieve the necessary skill in much less time and with much less effort. Likewise, in assembling that information which is necessary for self-guidance one individual needs much which he acquires relatively slowly; another individual needs less which he acquires relatively rapidly. As education is individualized, these differences in need are automatically taken care of. In the uniform lock-step, they have mostly to be ignored. This is done with great loss, especially to those individuals who vary markedly from the average of the class.

The individual plan permits us to lay out a curriculum of general education which is much the same for all pupils, whatever the level of their natural capacity, and then to let the pupils themselves provide the differentiation due to differences in natural capacity. Those of large native capacity will go rapidly and they will go far. Those of medium capacity will travel much the same road, but more slowly; and they will not get so far. Those of inferior native capacity will travel toward the same heights attained by their stronger brethren, but they will have to content themselves with the attainment of the lower levels. The pupils are not artificially or arbitrarily differentiated. The efforts of each determine the place of each.

More than under the class system, there must be measurement. Teachers and pupils need to know native capacity in order to estimate the distance that any pupil can go. Equally, they need to know achievement upon the several age levels by way of knowing whether the pupil has been advancing according to his native capacity. Under such a system there can be no such thing as uniform graduation requirements. Each should go as far along the several lines of his development as he can be prevailed upon to go. Each should have a certificate of the actual proficiency attained. This of course is an administrative measure; but it is a vital factor in developing a functional curriculum.

B. TEXTBOOKS AND TESTS WITH THE INDIVIDUAL METHOD

Bobbitt has discussed some of the ultimate possibilities of the curriculum under individual methods. If textbooks are used at all for such functional education as he describes, they will certainly have to be a new kind. Stoddard, as a superintendent dealing with the immediate problem of texts and tests in the individualization of his own schools at Bronxville, N. Y., takes the practical point of view. What kind of texts do we need now, and how can we get along with what is available until texts are published especially for individual instruction?

By A. J. STODDARD

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The problem of the right kind of textbook and test materials to be used with the individual method must be solved before there will be any wide-spread use of the method. This is especially true in larger school systems where it would be an impracticable administrative task to produce large enough quantities of special materials to supply the needs.

Most of the textbooks that have been written were meant for class use, with the teacher assigning daily lessons and meeting the class in daily recitations so that the necessary directions and helps might be given from day to day. They were not written so that the child could get from them complete directions and drill for his progress, step by step. Moreover, most of them fail to supply the type of development material so arranged and presented, step by step, that the average child learns what he should by performing the different tasks as outlined and suggested in the book. It is interesting to note that the definition given for "textbook" in Webster's *New International Dictionary* is: "A volume on which a teacher lectures or comments, hence, a manual of instruction."

The amount of drill work is usually insufficient to fix the facts, knowledge, and skills that are acquired only through doing or learning a great many times the things that are to be done or learned. Of course, the texts may be supplemented with any of the many fine

types of drill work that are now on the market. However, outside of the drill work in the four fundamental operations in arithmetic, there is not a very wide list from which materials can be chosen. It is better to have sufficient drill work follow, in an intimate way, the development work in a particular subject. For instance, a large amount of the right kind of drill work should follow each step in long division, and be a part of the same book that supplies development materials in this subject. These drill materials should be corrected by the child himself, with the answer sheets so keyed that the child is referred to the proper drill materials in order that he may make up whatever deficiency is indicated in his work as he goes along. This probably is the most important addition that must be made in adapting present textbook materials to use with the individual method.

Textbooks usually do not include definite, diagnostic practice tests by which the child can test himself at frequent intervals to determine whether or not he is getting the work as he goes through it. Such tests are essential if the child is to proceed as an individual and diagnose his own difficulties. Just as with the practice materials, the pupil should correct his own practice tests with answer sheets that are so keyed as to refer him to the proper drill materials to strengthen his weak spots as indicated by the test.

All of these criticisms do not apply to many texts that are being written to-day. For instance, there are several sets of arithmetic and junior-high-school mathematics books that have appeared on the market recently that very nearly fulfill all the requirements listed above.¹ One text in geography² has just come off the press that promises to fill a big place with those using the individual method. In this text the materials are so arranged that the pupil is led constantly to do one thing or another, to solve this problem or that problem, to look up answers to this question or that—all of which causes him to do his own learning as he progresses through the book. Even the pictures in the text have no titles under them and

¹ Among these might be mentioned such books as:

Brown-Eldredge *Arithmetics*, Row, Peterson & Co.

Shorling-Clark *Modern Mathematics*, World Book Co.

First Course in Algebra, by Nyberg, American Book Co.

The C. B. A. Hurdle Tests in Algebra, Rand, McNally & Co.

² Barrows-Parker, *Geography Journeys in Distant Lands*, Silver, Burdette & Co.

the pupil is asked to supply suitable descriptive words or phrases that might properly be used to tell what is in the pictures. Instead of the book presenting a mass of facts in an encyclopedic form, it has thrown together in a complete course a long series of tasks, problems, and projects that provoke thought and work on the part of the pupil so that he learns what he should as he goes along. The book does not just tell the child a lot of things and then ask him questions about what it has told him—the usual class method type of textbook—but serves rather as a series of opportunities for him to learn what he should.

There are two alternatives confronting those that are experimenting with the individual method. The first is to rewrite the textbook materials to fulfill the requirements for use with the method. This will require years because of the fact that publishers must be quite sure of a large sale for the book before they will go to the expense of printing it and placing it on the market. If textbook materials are rewritten for immediate use, it must be in some such form as is being so well done in Winnetka, Illinois. There, committees of teachers, through giving an unusual amount of extra time to the work, have actually rewritten large amounts of materials for use with the individual method. The objection to such a process is that textbook writing is an art, as well as a science, and cannot be done, other than in a tentative form, by those who have not made a special study or had special training in the process. It will not be practicable to ask classroom teachers to give the time from their regular work actually to produce texts in a permanent form. And yet the materials must be written as a result of a combination of actual classroom experience and a knowledge of the laws of learning in order that they be adapted to use by an individual child. Of course, this is true to a degree for any good text. It might be well to add that materials printed on a mimeograph often are produced with varying degrees of clearness, on varying qualities of paper, with a rather uninteresting appearance, in that it is not practical to supply the many illustrations and pictures that tend to make the textbooks more interesting to the pupils.

With the number of schools using the individual method rapidly increasing, as at present, it will soon be possible to produce, in a regular textbook form, the type of materials that is now being pro-

duced in several places in a tentative, mimeographed form. When this is done, it will be possible to have regular textbooks, written with the individual pupil's progress through the materials as the fundamental principle on which they are constructed. The different steps of a process will be developed in psychological order and adequate practice materials will be included in the same book. Keyed answer sheets for the drill and test materials can also be included so as to diagnose the child's deficiencies as he goes along, in such a manner that he can be referred to the proper drill work in order to remedy what is lacking. It may be well for the same author to produce a supplementary pamphlet of final tests, for the teacher's use. This book should contain answers keyed to refer to materials in the text, so that the teacher can indicate to the pupil, when correcting the test, just what work he should do to remedy the deficiency diagnosed by the test. It may be that in such a subject as arithmetic, special texts will be provided on special subjects. For instance, there may be a book on Fractions, one on the Fundamental Operations, another on Decimal Fractions and Percentage, another on Business Applications, etc.

The other alternative, until textbooks along the lines outlined above are produced, is to use the many fine books that are now on the market by supplementing them with assignments. This process is being used in many schools that are applying the individual method. The assignment furnishes what is lacking for the method in the ordinary textbook. That is, it suggests different lines of motivation for the work, states the purposes that control the doing of it, outlines tasks that are to be done, and supplies the explanations that are necessary in order that the child may progress without a large amount of help from the teacher. These assignments are mimeographed and placed in the hands of the pupils. They include practice tests and the necessary drill materials, although they may refer to one or more textbooks in which additional amounts of practice materials may be found.

The assignment is being used to supplement present textbooks successfully in several high schools and in some of the subjects of many elementary schools. In such subjects, as Latin or history, the assignment method is proving very practical.

However, it is necessary to have new textbook materials in such a

subject as arithmetic as soon as possible. There is no excuse for any school continuing the teaching of spelling by the class method for lack of suitable textbook materials because the word list of any good text in this subject fulfills the primary requirements.

The same general criticism that is made of textbook materials can be made also of standard tests. Most of them were written to test groups and to determine the average rating of the group. If not, they test only the general accomplishment of a pupil in a subject. For instance, a test in arithmetic might show that a pupil had a subject age of eleven years but would not show whether he needs more drill on Step V in Long Division or Step VI in Decimals. Or again, a test might show that the median of a certain class in geography was above standard, but might not point out the particular difficulty a particular pupil was having.

Many standard tests can be used with the individual method to determine when a pupil has reached the standard set as a goal for that particular child. Such a test as the Courtis Standard Test in the four fundamental operations of arithmetic enables the teacher to determine whether or not a particular child is able to add a column of figures of a certain length with the speed and accuracy set as a standard for the child to attain at that stage of his development. Standard handwriting, composition, and spelling scales are very useful for this same purpose.

In addition to the standard tests, there must be diagnostic tests in every subject, made to fit particular assignments or steps in that subject. These tests are similar to practice tests, except that they are corrected by the teacher. In several subjects, the multiple choice, completion, proportion, matching, selection, and similar types of tests are proving decidedly valuable because of their definiteness and economy of time.

In illustration: a child that has completed the work in multiplication of fractions takes the practice test that covers such problems

as $\frac{7}{8} \times \frac{6}{7} = ?$ If his answer is $\frac{42}{56}$, the teacher would check it III to

indicate the step (back in the development part of the book) to which the pupil should turn for further drill in the particular phase of the work that is giving him difficulty. On turning back to Step III

he would reread the development material and work again many problems involving cancellation. After he has done enough work to satisfy himself and the teacher that his trouble is removed, he will take another form of the same test taken before, to determine whether or not he is ready to take the final test.

Thus, while a vast amount of work must be done before the right kind of textbook materials and tests are available for use with the individual method, schools need not hesitate to adopt the method because of that fact. Enough progress has been made in solving the problem of materials for such subjects as arithmetic, spelling, penmanship, and language, in the elementary grades, and so many schools are now successfully using the method, that administrators and teachers desiring to give it a trial would find the question of proper textbooks and tests not a serious handicap. The written assignment or "contract" in high schools is making practicable the use there of present texts until the other type can be produced. The textbook problem will be solved as more schools use the method and bring about a more general demand—and market—for the right kind of materials.

C. THE DAILY PROGRAM UNDER INDIVIDUAL METHODS

By CARLETON W. WASHBURNE

In any attempt to individualize school work, the daily program is likely to be modified. One immediately asks himself if all the children in a class should do work on the same subject at the same time.

If work is individual at all, it is evident that either the time spent by one child on a certain subject each day will be less than that spent by another or the amount of work done will have to be greater for one child than another. Either arrangement is possible.

The first arrangement would result in the brighter children finishing each day's work in much less than a day. How to use the remainder profitably then becomes a serious question. The teacher's time will be largely occupied, under this or any other plan, in helping the slower members of the class: it will therefore be difficult for her to plan or supervise worthwhile activities for these quicker children, and the time saved becomes time wasted. Such children have been allowed to go home early, of course, in many schools, or have been set to helping the slower ones. While either of these devices may not be without profit to the bright child, few educators would consider them as adequate forms of individualization.

If all children are to spend the same time on each subject each day, the quicker ones will either progress more rapidly or do more work at each level. Having such children do more work at each level appeals strongly to many persons. The only serious objection to it is that in the elementary school, at least, such additional work is liable to be mere padding, and to offer no incentive to the child to work to capacity. When a child has reached a certain optimal speed and accuracy in long division, for instance, simply to give him more and harder long division examples to fill his time is not educating him.

Consequently, the present trend seems to be toward allowing children to progress as rapidly as their ability permits in the required subjects each day, making use of the saved time for large units of elective courses in the junior and senior high school as the children finish their required work.

There has been, on the other hand, a strong tendency to give each child freedom in the arrangement of his own time. This originated with Montessori, but got into public schools by way of Frederic Burk, and especially through Helen Parkhurst's Dalton Plan.

The Dalton theory of making each child responsible for his own job, of allowing him to continue uninterruptedly at a task he has undertaken, and of permitting him to use more time on the subjects which he finds hard than on those which for him require less study, has a wide appeal. The rapid and world-wide spread of the Dalton Plan idea bears witness to this appeal.

Burk, however, and following him, the Winnetka schools, have shown that many children, given this degree of freedom, waste much time. Children should earn the privilege of regulating their own time, they claim, and should lose the privilege if they abuse it.

Possibly the fact that Miss Parkhurst worked with select groups in private schools, and with high-school students, while Burk and the people at Winnetka have been dealing with elementary-school children, accounts in part for this divergence in point of view.

Under the Dalton plan every child makes his own daily program, except for times when he must attend conferences called by the teachers. In Winnetka, children are classified into "supervised study" groups and "self-reliant" groups, according to the teacher's judgment. Those in the "supervised study" group follow a program—usually, but not always the same for all—made by the teacher. Those in the "self-reliant" group arrange their own day very much as under the Dalton Plan. Any "supervised study" child may upon his petition be changed to "self-reliant" if the teacher feels that he has shown himself to be, in general, self-reliant, and any child in the "self-reliant" group who misuses his time, spending it on his favorite study or getting into mischief, may be transferred at once to the "supervised study" group.

Under either this plan or the full Dalton Plan, the daily program, in the old sense, disappears. The very fact of individual work breaks down the necessity for rigid time tables. When the work becomes flexible to fit individual differences, the daily program, too, becomes flexible and adaptable.

D. PROMOTIONS AND INDIVIDUALIZATION

By CARLETON W. WASHBURNE

In order to determine what type of promotion should be used under a system of individual work in schools, it is necessary first of all to decide what use is to be made of the time saved by the brighter children under such a system. There is, first of all, the question as to whether children who are capable of completing the required work of the schools in fewer years than now allowed should be permitted to do so and turned out into life at a younger age, or whether, on the other hand, provision should be made to use their surplus time in school for a broader and richer training than that accorded to slower children.

There are those who feel strongly that the idea that every child should finish the elementary school at the age of about 14, the high school at approximately 18, and the college at 22, is purely traditional and based upon the old habit of thinking in terms of averages rather than in terms of individuals. These persons contend that it is just as natural for some children to finish all their education in two or three years less time than is usually allotted as it is for slower children to finish their education in the regular period. They argue that it is from the ranks of the brighter children that our professional men and technical experts are to be recruited. The training required of such men and women is becoming increasingly long and arduous. A physician, for example, who takes the regular amount of time to pass through school, is not ready for practice until he has reached the age of 26 and usually has not achieved sufficient practice to enable him to settle down and marry until considerably later. Serious social problems arise from this long postponement of the time of marriage. Furthermore, large losses to society arise from the long unproductive period now being used for training. Any shortening of this long process would be, from this point of view, a welcome and needed solution to a problem which is becoming more and more serious with the increase of human knowledge and specialization.

The counter argument is to this effect: It is our business to use

time, not to save it. The more education we can give to the children during the few years we have them, the better their lives will be afterward. The specialization that the children are going to do later should be compensated for by as broad a range of interests and knowledge as possible. The brighter child should not try to speed through his schooling, but should rather broaden his interests and increase the range of his knowledge.

There is also the purely practical argument, which, for the time being, takes precedence in most people's minds over the broader issues raised above. Most children who enter the high school do so at an age not less than 14; most students entering college are not less than 18. To send a few individuals into the high school or the college at much younger ages is to put these individuals in an environment that is not fitted to them and to put them at a social and physical disadvantage. Thus, the child who enters college at the age of 15 or 16 often does not have the opportunity to participate in athletics that he would have two or three years later. While still adolescent, he is thrown with young men and women of comparative maturity. The same contrast applies also to very young children entering the high schools.

This argument is partially refuted by some people on the ground that if education everywhere were individualized there would be in every high school of any size and in every college, a young group who would naturally associate with each other and for whom athletic and social provisions would be made.

This being somewhat in the future, however, and the practical difficulties being more obvious to most people than the possible future advantages, the present trend of individual work seems to be to provide some means by which children will not finish school at too early an age, but will rather use the time they have saved through individual work for a broader education.

The place for this broader education may be in each grade as the child goes along, or in the junior or senior high school. If it is in grade, promotions will usually be annual, and the class will move forward as a whole. If it is in the junior or senior high school, the children will move forward through the lower grades as individuals and as rapidly as their ability permits, until they reach the junior or senior high schools, where a wide enough range of electives and

special courses will be offered so that the rapid child may use profitably the time he has saved in the lower grades. There are advantages and disadvantages in both plans.

Under the first plan there is a minimal course of study for every child. This course is presumably based upon what the slowest 'normal' children can accomplish in a year. Beyond this minimum there are all sorts of additional and special assignments—by-paths which the brighter children can explore if they have completed the minimal assignment for the day, week, or month, as the case may be. The advantages of such a plan are, first, that the children are constantly kept with others of their own chronological age; second, that the teacher is able to conduct group explanations and discussions which require less of her time than individual explanations; and third, that the group and creative activities of the class may be much more closely correlated with strictly individual activities than under the other plan.

The first disadvantage, aside from the impossibility, under this plan, of permitting children to finish school at a younger age than is now customary, is that it is almost impossible with non-departmentalized work in the grades to provide enough really educative material to use to advantage the varying amounts of time saved by each child. A teacher with thirty to forty children in her class can not very well see that each child, as he completes each unit of his work, is provided with the right sort of educational material. For one thing, the classrooms themselves are not equipped for a wide enough range of activities. It may, for example, be more profitable to a certain child to use his saved time doing shop work or experimenting with radio or practicing music than in doing a 'plus assignment' in formal grammar or reading more books. Yet, in undepartmentalized lower grades such activities would not only require unusual equipment, but would often be disturbing to the rest of the children.³ Consequently, the attempt to give plus assignments often results in merely filling the children's time with 'busy-work' or padding their course of study with unnecessary and often useless detail. The prospect of having to do such plus assignments does not tempt

³ Some of these disadvantages could be avoided by the platoon plan. Many thoughtful people and experienced teachers, however, gravely question the desirability of departmentalizing and platooning the primary grades.

the child to complete his minimal course of study as rapidly as possible. On the contrary, he may be tempted to loaf along so as to avoid extra work.

The other plan makes promotions strictly individual and by subjects, up to the junior or senior high school—preferably to the junior high school, if there is one. There is a single course of study for all children, consisting of those subjects which will be valuable to every child. Each child completes this course of study at his own rate. When he has completed all his work of the lower grades, no matter what his age is, he enters the junior high school. Here he is given as wide a range of electives and special courses as possible, in addition to such required work as the junior high school may provide. His whole time is used and he may even spend an additional year in this junior high school, following out his special interests or filling out his special needs, after all the required work is done.

The advantages of this plan are these: First, if in the case of any particular child it seems desirable to allow him to complete his school work at an age somewhat younger than the traditional one, this may be done. Second, the child is encouraged to work to capacity all through his school life, with the reward of more rapid promotion and an opportunity to follow out his special interests later. Finally, it becomes possible under such a system to use the time the child has saved to the best possible advantage, for it is in the junior and senior high schools that centralization and departmentalization bring about a wider range of activities and a greater amount of equipment than can possibly be had in the lower grades.

There are, however, certain disadvantages. The outstanding one is the difficulty of correlating group activities with the individual work. This is particularly true in the social studies. Here it is almost essential to have a group working on a particular topic together. Even those schools which most urgently advocate strictly individual progress and promotions, usually make some provision by which the social studies may be excepted. One method of doing this is to require each child to complete a certain topic in social studies (including, of course, history and geography) as an individual. Before beginning the next topic, however, he must wait until at least three-fourths of the children in the group are ready for it. He may use his excess time either to explore further in social

studies, which offer an unusually rich field for such exploration or to work on his more completely individualized subjects. In this way it is possible for class discussions, dramatizations, and projects to go hand in hand with the individual work in the social studies. This single exception to individual progress does not seriously interfere with the general scheme. If a child completes six years of work in five in all the other subjects, it is merely necessary for him during the last year of the five to carry a double load of social studies, one slowly with the rest of the class, the other rapidly as an individual.

Another problem that arises in connection with this plan is that of the preparation of materials. When explanations to the entire class are made impossible by the varying degrees of progress of its members, self-instructive textbooks become necessary. Most textbooks are not written directly to children, but assume that the teacher will explain more fully all the difficult points. Little by little self-instructive texts are being introduced to meet this difficulty. For the time being, however, the lack of suitable materials is probably the greatest deterrent to permitting children to progress as individuals.

Under a system of individual progress the question arises as to whether or not a child should complete a grade's work in all subjects before he goes on to the next grade's work in any one subject. There seems to be no valid reason for insisting on a complete evening-up of all subjects before allowing a child to go on to the next grade's work in any one subject. There are, however, strong reasons for keeping an approximate evenness of progress in all subjects: a child may be transferred from an individualized school system to one which is on the old basis, in which case any great unevenness would be a distinct drawback. Furthermore, the time will ultimately come, either at the end of the sixth grade or at the end of the junior high school, when such an evening-up becomes almost essential; if a child is two or three grades farther along in one subject than in another, the latter part of his school course will have to be very one-sided in order to bring up the slowest subject. An evenness of progress all along the way is certainly preferable to this. The child who is advancing very rapidly in some subject should be required to use less time on that subject and to put more time on the subject in which he is farthest behind.

Under the plan of individual progress, again, the question arises as to the basis for grouping children. It is, of course, possible to keep all children of the same chronological age together, since the individual work of one child will not interfere with that of another, even though they are at different stages. One reasonably successful method of grouping children has been to put in the same room children who are apparently of the same "social age." This social age is determined by the teacher through watching the children on the playground and in class and noting the approximate age and grade grouping of a child's playmates. There is no exact rule for determining a social age, but under a plan of strictly individual progress a child can readily be transferred from one room to another, if he does not seem to fit in the room to which he has been assigned. The time will come, however, when the brighter child has completed all of his individual work, and is ready to enter the junior or senior high school at an age younger than his fellows. All such children can then be grouped in that junior or senior high school so that they have plenty of companionship of their own age. They can then use their saved time in special and elective courses and need not enter upon the next higher stage of their educational career until they have the necessary maturity.⁴

Either plan of promotion—the class plan by which the brighter children do extra work in each grade, or the individual plan—requires careful preparation and some adjustment. Either plan properly carried out will provide for individual differences. The second plan, however—that of allowing children to progress strictly as individuals through the lower grades and then giving them an opportunity to carry on diverse activities according to their individual interests, or abilities, or needs, in the junior or senior high school—probably results in the more complete adaptation of the schools to individual differences.

⁴ It may be pointed out that superior intelligence tends very definitely to be associated with superior health and earlier physical and social maturity. See the reports by Terman and by Terman and De Voss in the *Twenty-Third Yearbook*, Part I, Chs. IX and X, where an elaborate investigation justifies the statement (p. 184): "Surely there is no good reason why most children of 140 I.Q. or higher should not enter the high school at 12 years and the university at 16."—*Editor*.

E. SIZE OF CLASSES

One of the most frequent questions in regard to individualization of schools is as to whether more teachers are required—whether classes must be smaller. Sutherland, in Los Angeles, has held that there should not be more than thirty-two children to the class. Winnetka has only thirty. Yet Detroit and Racine have forty, and Miss Mackinder, with the hardest grades of all to individualize—the primary—has had to assign 45 to 54 children to each teacher. In spite of this, she has done remarkable work in individualizing her school—but she doesn't believe in such large classes!

Large classes, therefore, seriously decrease the advantages of the individual method, just as they prevent good class work. Little children cannot be adequately educated in masses of forty-five to fifty-five under either individual or class methods. A teacher ought not to have more than thirty-five children in a class. If she has more, her work will suffer; but she can make shift, and even in large classes the children will profit by making the conventional class method give way to individual work.

By JESSIE B. MACKINDER

I believe that the same teacher, teaching any reasonable number of children, *en bloc*, as a class, would obtain, in the long run, better results with the same number of children by using individual methods.

I think we should not have more than 35 children. The larger the class, the longer the time required to bring the class to a given level by either method. But in addition to giving better tangible results in the long run, individual work will produce children more able to continue their own education and with a happier attitude toward life's difficulties than children brought up on class work. The child who has from the beginning of his school life been obliged to shoulder the responsibility for getting a job done will not be likely to blame somebody else for his failure to achieve when his school days are ended.

In a large class it is not possible to give every child enough

attention to allow of his proceeding as quickly as he could were his teacher never obliged to keep him waiting.

But the partial, or perhaps apparent, retardation of the quick learning child is a less serious fault than the complete retardation of the slow learning child by preventing his sure building of the foundations of future ability to learn or of the foundations of character which will enable him to use his limited ability in the best way.

One of the faults of class teaching has been the retardation of the quick child, but I am now speaking of the child under eight years of age, and I do not think so young a child will be injured by the enrichment of his building in the foundational stage rather than rapid passing from stage to stage, so much as the slow child will be injured by the laying of insecure foundations or the formation of a conviction of his lack of ability.

For example, clever A. B. may have completed one stage in arithmetic and may be unable to pass to the next until his teacher can give him some attention. But he need not necessarily waste his time. He can read a geography book for pleasure whilst waiting. If the class were smaller, A. B. could have the attention he needs when he needs it, and that would be the most desirable thing. But if a large class makes the most desirable unobtainable, we must choose the next most desirable thing possible to us, until public opinion will demand the best.

As the teacher works on individual lines and realizes how often a child is kept waiting, she more and more ardently longs for smaller classes so that she may "get to" each child more frequently. In actual practice teachers of large classes are driven to a compromise and have to keep certain members of a group together, instead of allowing every child to go ahead at his own rate, in some subjects.

By the class method the quick child was kept waiting longer and the slow child never caught up. He became discouraged because he formed the retardation habit.

In one school I know, the enrollment has ranged from 48 to 54 all the time individual work has been used. The teachers often said they could get the children as far by having half of any class for half the day, in school, in any period, as they can when the whole

group attends all day. This is a feeling, merely. It has not been tested. But in this school of 500 children the headmistress, who is, of course, not tied to any class, has for the past three months taken the A section of three classes out of the classrooms for class lessons in singing, story telling, scripture, and similar largely inspirational subjects. At another period of the same day she takes the B section of these same classes for the lesson given to the A section previously. This leaves each of the three class teachers for two periods in each day with half their class. The large group of about 75 children of about the same age can be so taken for these mass subjects, and the class teachers have found great relief, because the children who remain with them can get through the work more quickly because they do not have to wait so long between jobs for the teacher's attention. The actual time spent by each child in each kind of work on the school time-table is the same as it was, but, of course, this would be impossible were the head teacher unable to participate in this way in the work.

The greatest difficulty is found in the classes where the children cannot read. When they can read, there are many things of interest for them. Until they can read, the jobs they are able to do are such as need constant assessment, correction, or help from the teacher.

The younger the children, too, the less capable are they of sustained concentration on one job. They must have frequent changes. A change from one job to another should involve the checking of the first by the teacher before another is commenced. With large classes this is impossible—at any rate it is impossible in the writer's school, so far.

F. SUPERVISING THE WORK OF INDIVIDUAL CHILDREN

Individual instruction involves supervised study. The teacher who, under the lock-step methods, had to be at the front of the room hearing recitations, under individual methods is down among the children helping this one, encouraging that one, checking up on each child's work. She is a teacher of children rather than a hearer of lessons. Her problems are here discussed by Miss Mackinder.

By JESSIE B. MACKINDER

The younger the child, the more frequently must he be able to change his job and the more frequently must he be shown what is the next step for him.

When he first comes to school, he often has either suffered from lack of continuous occupation in a poor and overcrowded home or has been 'played with' by older children and has not learned to depend upon himself for occupation.

The result is that he must have, in each stage, an immediate objective which he can reach in a very short time, so that he very frequently tastes success, and by quickly completing one job and taking a different one, can have many changes but train himself to work alone.

Gradually, as the habits of 'busy-ness' and of success are formed, the child's *will-to-work* and the teacher's careful grading of material will lead the child to longer and longer jobs. I have been in the room with a set of 50 children, from 6½ to 7¼ years of age, where the teacher was absent for two hours, doing my own work and giving them no help. They needed no word from me.

I do not think it wise to allow children to work for that period without supervision at that age, because their errors are so many that the teacher must check every exercise to prevent the memorizing of errors by their repetition. Every exercise should be checked and corrected in the child's presence, immediately after it has been written. He is laying foundations in all subjects and in all habits. It is well to insure that every brick is well and truly laid, so that the superstructure may be secure.

Whatever the method of teaching may be, this very careful supervision is necessary. In individual work, carefully graded and recorded by the teacher, this supervision is essential to the plan. In class work it is possible for the supervision to be less personal to the child and less thorough on the part of the teacher, and for both to be unaware of the fact.

If a child knows that the proper completion of one stage is necessary to his passing to the next, he demands assessment, he wants supervision, instead of feeling lucky when the class teacher did not notice his bad work.

I think if the young child had this careful supervision in his early years, the child of twelve would be a self-reliant student, needing no more supervision than the majority of college students should require.

By the adoption of a careful method of recording progress from stage to stage, the supervision of a small class is simpler than that of a large class, in that it is more thorough.

When a class teacher marks off in her record every letter a young child learns, she can direct his attention to those he does not know, and she will see that he does not waste time on the known ones, but concentrates his attention on those he has still to learn.

When another child brings a set of sums correctly worked in a new rule, this, too, is recorded. Day by day the teacher looks down her record and draws the attention of any child to any particular detail in which he is falling behind.

A certain type of teacher finds the command of a class a very trying business. This particular type of teacher will find that individual work gives her such an intimate knowledge of the children that her disciplinary troubles will disappear. They will disappear with any type of teacher so long as the children are kept enthusiastic and busy.

Many most valuable teachers were wasted by the strain of the drilling of large heterogeneous classes, but have found their true vocation when they could come into contact with the individuals of their class. In very many cases these teachers are the truest disciplinarians. They call forth in the children their own powers of self-control, and the children learn the discipline of freedom and work. It is just these teachers who were in the old days quite miserable in the marshalling of companies by fear.

G. TRAINING TEACHERS FOR INDIVIDUAL WORK

The attitude of the teacher is undoubtedly the greatest single factor in making individual work successful. How to bring about the right attitude is therefore the most pressing single problem in the whole program of individualization. The studies reported below by Courtis bring this problem out in bold relief. The comparative uselessness of the technique of individual work in the hands of the class-minded teacher, and the contrasting value of this same technique in the hands of the teacher who, through personal training by a supervisor, has grasped the underlying ideal, is forcefully presented by means of accurate experimentation.

By STUART A. COURTIS
Detroit Teachers' College

While the ideal of "adjusting work to individual needs" has been preached for many years, almost all teachers in service have received training in a form of mass instruction which centers responsibility for the control of the learning process in the teacher. The conventional conception of teaching is "*doing* something to the child" in contrast with "*assisting* the child to do something to himself." It is possible for a teacher to use individualized material exactly as she has always used textbooks, blackboards, etc. When so used, the material does not function and produces only conventional results. True individualization of instruction involves a change of view, a shift of emphasis. The maximal benefit from the new methods of work cannot be secured without such an awakening of the teacher to the fact of individual differences that she *makes for herself the generalization* that it is impossible for one human being to plan adequately for another and futile to try. Once this stage is reached, she will see that true teaching consists in 'salesmanship' and 'service.' She will at once take the child into partnership and strive to help him help himself to learn.

Detroit has attempted to bring about this essential change of standpoint in its teachers in three ways: (1) by general supervisory visiting; (2) by modification of training courses in the city

Teachers College; and (3) by direct control of a few selected teachers by a special supervisor during the period of experimentation.

The following data are presented as illustrative of the relative effectiveness of the three methods.

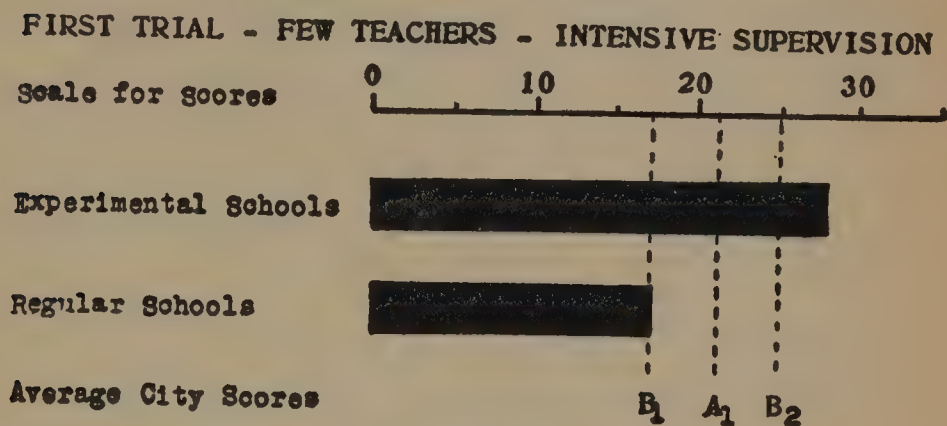


FIGURE 1.

In January, 1922, a careful control experiment was conducted to measure the effect of the newly devised individualized material for teaching reading.⁵ Five selected teachers received direct and

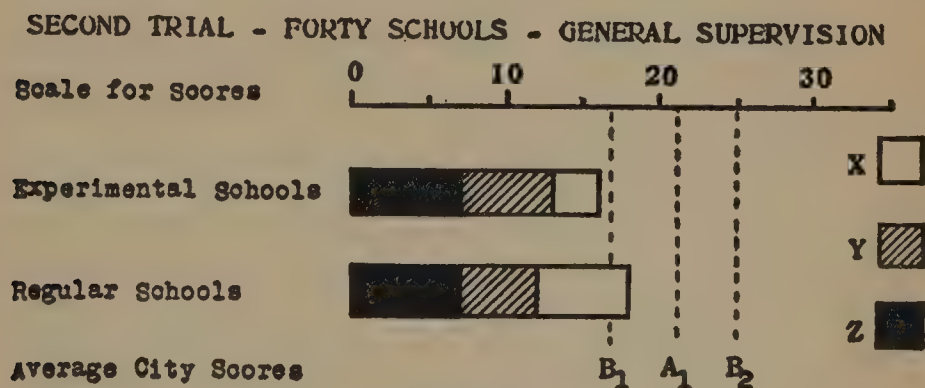


FIGURE 2.

continuous training and supervision in the use of the new material. The results are based on 180 children in four schools, matched in age, sex, and intelligence with 180 children in four other schools.

⁵ See pages 193 ff.

The schools chosen represented four different levels of social conditions, and the attempt was made to equate teaching ability. The data are shown in the graph.

These results were presented to the teachers and principals of the city schools and opportunity given to those interested to volunteer to try the new material during the following semester. Forty schools responded (approximately one-third of the whole number). A comparison of their scores at the end of the semester with those of the 80 schools following the regular course of study shows minor variations only (see Fig. 2).

Yet the teachers concerned were a selected group in that they were interested enough to volunteer, and they were under general

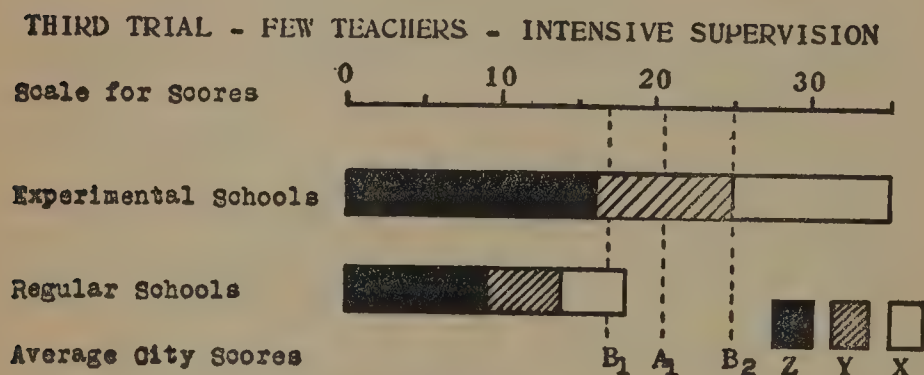


FIGURE 3.

supervision during the period of trial. Moreover, many of them had learned of the new material and had been instructed in its use through Teachers College courses.

During the semester from September to June, five schools were again selected for special training and study, and one person devoted a large proportion of her time to the task of supervision. Comparison with five other schools selected as equal to the first gave the results shown graphically in Fig. 3. It is particularly interesting to note that in the schools with special supervision even the Z (inferior) children exceeded the score made by the X (superior) children in the other group.

In the meantime the demand for the new material was steadily growing throughout the city. Eighty schools were now using the material. Change in the testing program of the city had necessi-

tated certain changes in the records. The scores of the next semester, therefore, are not comparable with those previously given, but are indicative of the relative achievement of the two groups. Again, the effects of the new material on the reading test score for the experimental group as a whole were not favorable (see Fig. 4), in spite of the fact that the concomitant benefits from the new method in better attitudes toward reading and in growth in powers of self-direction were winning over many teachers and principals.

Analysis of the class scores for this period shows that the large gains made by 29 percent of 100 B-1st teachers are offset by the losses made by 27 percent of the teachers who did not succeed. At

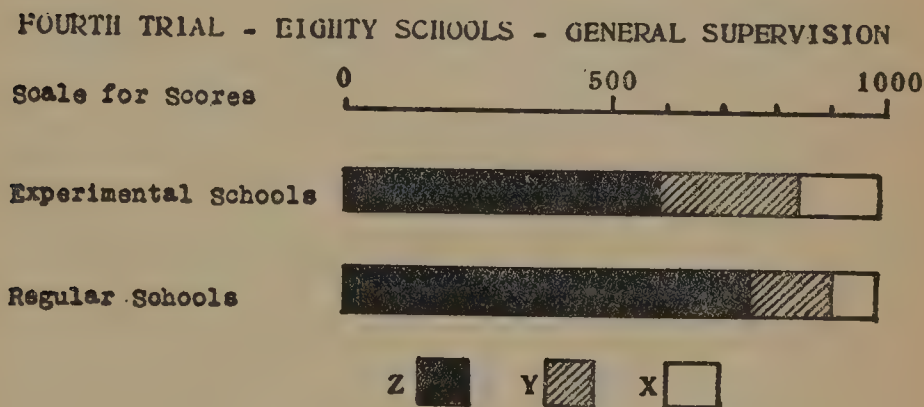


FIGURE 4.

present, the attention of the department is being given to devising more effective ways of supervision. For it is quite evident that in spite of the possibilities of the new material and its rapid growth in favor, effective use demands something more than mere outward conformity with the form of individualizing classroom procedure.

The conclusions from these and similar experiments are (1) that individualization of instruction involves a radical change of point of view in teachers; (2) that the most effective way to bring this change about is intensive and continuous supervision by an expert; (3) that teacher training courses serve to bring new points of view to the attention of teachers and to prepare the way for a

trial under classroom conditions, but are not in themselves productive of power; (4) that general supervision has very little effect in bringing about radical changes in point of view on a large scale—its function is rather to assist in holding a given type of work up to an effective level; and (5) that more effective forms of supervision and teacher training must be devised before there can be efficient individualization of instruction. Under existing conditions, changes in the right direction can take place in a system of any size only very slowly.

H. SUMMARY

By no means all of the problems connected with the individualization of instruction have been discussed in this section. Enough have been included to make it evident that much thought and experimentation are necessary before a perfect way of fitting schools to individuals will be found. Enough, too, have been discussed to make it clear that schools can adapt themselves to children in a variety of ways, any one of which is better than to fail to make any adaptation.

Bobbitt has shown that individual instruction, if it is to fulfill its purpose and promise, must go much farther than merely to provide an efficient vehicle for the old curriculum; its greatest value lies in the possibilities of using it for a functional, rather than an academic education. Stoddard has described the kind of texts and tests that will have to be written before even the old curriculum can be satisfactorily individualized; but he has shown how one can temporarily use the best of the available materials and at least move a long way toward adaption to individuals. The discussion of the daily program, and that of promotions, open up several methods of individualization, any one of them freer and more adaptable than the traditional scheme, each with its practical difficulties and each with its own advantages. Miss Mackinder has spoken from personal experience, both of the possibility of individual work with large classes and of the undesirability of classes larger than 35. She has also shown something of the problem of supervising each child's work under individual instruction. This leads naturally to Courtis's contribution on the training of teachers; he has brought scientific evidence to bear upon this problem, and has demonstrated that individual methods employed by teachers who have not the individual point of view are of relatively little value. It is fundamental, therefore, to give each teacher the ideal of adapting her work to the needs of each individual child.

These discussions tend to focus thought on some of the problems of individualizing schools. From such thought will grow experimentation. From that will come scientific data. And these will gradually lead to the solving of the problems.

SECTION V

A PROGRAM OF INDIVIDUALIZATION

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This section is intended as a manual for those who are interested in reorganizing their schools on an individual basis. The reasons for individualizing the schools have already been presented. The results of such individualization have been discussed. The problems involved in adjusting schools to individuals have been entered into and various solutions offered. In this section are brought together certain of the salient ideas and successful practices of various attempts at individualization. The foregoing parts of this *Yearbook* make it perfectly clear that the method of individualizing work presented in this section is not the only possible one. There may even be disagreement as to whether it is the best one at present worked out. This much can be said for it, however: each step has been worked out successfully in one or more schools. It must be a workable program, because it is a program that has worked and is working.

A. GENERAL TECHNIQUE

The first step of all is the reorganization of the curriculum.

Certain knowledges and skills in the curriculum are needed by every child. These must be isolated—on paper at least—and stated in very definite terms. To say that a child must learn long division, for example, is not sufficiently definite. To say that every child shall be able to divide four-place dividends by two-place divisors, involving a naught in the middle of the answer, a naught at the end of the answer, a remainder or a trial divisor, and that he shall be able to divide such examples at the rate of two in three minutes with 100 percent accuracy, is a definite statement. To say that every child shall know about the discovery of America is vague. To say, on the other hand, that every child should know that it was Columbus who discovered America in 1492, that Columbus discovered it in a search for a shorter route to the Indies, and that he was outfitted by Queen Isabella of Spain, is to state definitely what is expected of

the child. This statement, naturally, in the case of history, is not to go into the child's hands, as a mere memorization of isolated facts is not desired, but it is essential for the teacher if his work is to be individualized, so that the particular facts which are essential to every child (assuming that those mentioned are essential) may receive due stress and be adequately tested.

Let us call these knowledges and skills, stated with the utmost definiteness and needed by all children in common, the *common essentials*.

There is another highly important part of the curriculum—the socialized and self-expressive activities. These activities have not for their purpose the mastery of subject matter or skills needed by all children in common. They provide opportunity, however, for children to work together, to learn co-operation, to sense the interdependence of the members of the group or of society. They provide an outlet for a child's creative energies; an opportunity for each child to express something of his individual self as differing from all other selves. In this field would come not only activities, but 'exposure' subjects. A child may be 'exposed' to good music, or fine art, or great literature, not with the intention of demanding any certain knowledge of it, but with the purpose of giving each child an opportunity to get from this exposure that which fills one of his own needs or develops one of his interests or abilities.

It is fundamental, in any plan of individualizing work, to provide not only for individual mastery of the common essentials, but also for activities in which individuals may express their differences and in which they may learn to co-operate socially with other individuals.

When the common essentials have been clearly defined, a means must be found of testing children in their mastery of these essentials. Such tests should partake of the nature of objective, standardized tests, but should be more searching than most of these. Each specific phase of the subject—each person, place, or event, for example, in history or geography, or each possible difficulty in long division, or each combination in column addition—should be distinctly tested. A test, therefore, will consist of a number of parts; each part will measure the grasp of one phase of the topic. It is only in this way that the testing can be diagnostic, can show where the particular difficulty of every child lies.

To be diagnostic, a test must of course also be quite objective; there must be only one possible right answer. A true-false test is of no use for this purpose, since any particular question has an even chance of being correctly answered by guess work. The manipulations by which true-false tests are scored may serve to determine the general ability of a child in the subject tested, but they do not help at all to discover the specific needs of each child.

Consequently, multiple choice and completion tests are the only types that are satisfactory. A multiple choice test should present at least four alternatives; and a completion test should be so devised that there is only one possible right word or number to be supplied.

More difficult than the preparation of complete, diagnostic, objective tests in the common essentials, is the preparation of suitable self-instructive material. It is the dearth of such material which has held back the progress of individual work in the schools. Most texts are written with the expectation of class elucidation. It is only recently that a few texts have been published which are readily adaptable to pupil self-instruction.¹

Until it is possible to secure such texts in all subjects, it is necessary either to mimeograph one's own texts (a stupendous job) or to use some of the texts that have been mimeographed by schools operating under an individual system or to supplement ordinary textbooks with mimeographed assignment sheets and supplementary explanations and practice materials. The latter is probably the most universally applicable method until enough suitable texts are on the market.

Such assignment sheets may be mimeographed and bound together in a booklet for each child. One such booklet then accompanies each textbook. Many of the San Francisco State Teachers' College "Bul-

¹ Among these are the following:

Mabel C. Hermans, *Studies in Grammar*, Henry Holt and Company.

Sterling A. Leonard, *General Language*, Rand McNally Company.

Horn-Ashbaugh Speller, J. B. Lippincott Company.

Carleton W. Washburne, *The Individual Speller*, World Book Company.

Washburne and others, *Individual Arithmetics*, World Book Company.

Carleton W. Washburne, *Common Science*, World Book Company.

Mary A. Ward, *Pupils' Self-Instruction Arithmetic*, Rand McNally Company.

Stuart A. Courtis, *Standard Practice Tests in Arithmetic and Handwriting*, World Book Company.

Stuart A. Courtis, *Picture-Story Reading Lessons*, World Book Company.

The McFadden Language Series, Rand McNally & Company, Chicago.

letins" consist entirely of supplementary lessons and explanations of this sort to accompany the state-adopted texts. Let us call such supplementary materials *assignment booklets*.

Before writing an assignment booklet to accompany any textbook, it is first necessary to have made the list of specific objectives for the subject of this text, and it is desirable to have made the complete diagnostic tests which are to show whether or not a child has reached the objectives. Then, for each objective the text to be used will be examined. The assignment booklet will contain a statement to the child as to what he is to try to get from the text. If the explanation in the text for any particular objective is not sufficiently full or clear, this will be supplemented in the assignment booklet. If the amount of practice work or the number of exercises in the text are inadequate, these, too, will be supplemented in the assignment booklet, with directions to the child as to which exercises are to be done. It is desirable to have in the booklet separate sets of exercises for each objective, so that if a child does not succeed in doing the first set perfectly, he may try again on the second, and if that is not perfect, on the third or even the fourth. Few textbooks contain enough practice materials for such thorough work. The assignment booklet therefore will usually contain alternative sets of exercises to be done in case the exercises in the textbook are not done perfectly.

One of the essential features of the assignment booklet is a set of answers to all exercises. The exercises themselves must, as a rule, be so devised as to permit self-correction. If provision is not made for self-correction, the amount of written work to be corrected by the teacher will be inordinately large. The danger of cheating in self-correction may be partly avoided by supervision, but is chiefly avoided by the fact that each phase of the work is going to be tested completely by the teacher with a diagnostic test. The child's progress will depend upon his success in the tests, not upon the correctness of his daily practice work. There is no more temptation to cheat one's self under such a system than there is for a runner in preparing for a race to cheat himself as to how fast he can run when he is practicing for the race.

Wherever possible, the assignment booklets containing the assignments, supplementary explanations, supplementary practice ma-

With the foregoing system of definite objectives, complete diagnostic tests, assignment booklets, and records, it becomes possible to abandon recitations and allow each child to move forward through each unit of his work at his own rate. The testing function of the recitation will be taken care of much more adequately by the diagnostic tests. Such socializing elements as there are (or are supposed to be) in the recitation will be handled by the socialized and self-expressive activities described a little later.

In the abandoning of the recitation and in substituting for it the system of individual work and tests just described, one saves a considerable amount of time each day. It will be found possible to use at least one-third, and even up to one-half, of the day for socialized and self-expressive activities, and to confine the work in the common essentials to two-thirds or one-half of the day.

When a child has finished a textbook or a list of objectives in any subject, he will proceed to the next unit of work, unless there is some one subject in which he is very far behind. In this case he will use his saved time to bring up the subject in arrears.

Children will be grouped more from the standpoint of the socialized and self-expressive activities than from that of the common essentials. In socialized activities it is necessary that children fit well together. If some are a year or two ahead or behind the others in the strictly individual work in arithmetic or language or spelling or writing or reading, it will not interfere seriously with their participation in the socialized activities. It may be necessary, however, for them to do the history and geography work at the same time and at the same rate as the children with whom they are grouped, for these subjects are often correlated with the socialized and self-expressive activities. They are primarily socialized subjects and it is less necessary to individualize them completely than it is the tool subjects.

The part of the day devoted to socialized and self-expressive activities should be as free as possible from requirements and formal work. This should be the opportunity of the teacher and the children to follow out natural interests, to develop self-reliance, initiative, and originality, to thresh things out together or to co operate in projects.

The projects carried out in this socialized part of the day will

never be for the purpose of teaching subject matter. Such teaching may incidentally result. A stimulus to the learning of subject matter would be a desirable outcome of some of the socialized work, but the project should be mainly for the purpose of training children in co-operative activity. The project should not be stretched to 'bring in' some subject which the teacher wants the children to master. The project should be as much as possible of the children's own making and planning. To it each child should contribute his own special strength. In it each child should find his own weaknesses complemented by the strong points of others. Division of labor, co-operation, the merging of one's personal welfare in the welfare of the group, rather than mastery of subject matter, should be the outcomes of projects. Undoubtedly, subject matter learned in the individual part of the day will often find motivation or application in the projects, but this should be incidental and never forced. To the child, each project is an end in itself.

Field trips; opportunities to develop appreciation of art, music, or literature; discussions of live issues; self-government; dramatization; hand work of all kinds; and group projects, would fill the part of the day which is saved through the individualizing of the common essentials. *These socialized and self-expressive activities are to be given as much dignity and importance in the school curriculum as is the mastery of the tools.*

There is no such definite technique for the socialized and self-expressive activities as there is for the common essentials. By their very nature they must be informal and spontaneous. They will differ from group to group, from teacher to teacher, from year to year. They are opportunities rather than requirements. Fortunately, their interest value is high enough, if they are properly handled, to enlist the full attention and activity of the children without formal credit.

The individual work in the common essentials provides for children's differences in ability to master commonly needed knowledges and skills. The socialized and self-expressive activities provide for the differences in children's interests and abilities through giving each child an opportunity for self-expression and an opportunity to contribute his part toward the welfare of the group. The full development of both of these parts of the curriculum is essential to thoroughly individual work.

B. STEPS BY WHICH TO INTRODUCE INDIVIDUAL WORK

The general technique of individualizing schools above suggested cannot be incorporated bodily and instantly in a school system. It must be introduced little by little; it must be the result of growth.

The first step toward individualizing work must be that of securing the interest and co-operation of the teachers who are to experiment with it. It is not necessary that all teachers begin at once. It is better to select a few teachers whose enthusiasm and ability augur well for the success of the undertaking than to attempt to begin the work with a number of half-hearted, half-convinced members of the staff.

One should begin with the easiest subjects to individualize, so that the idea of individual work may be developed without swamping the teacher with too many preliminary details. The subjects most easily individualized vary in the different grades. In Grades I and II, sight words, phonics, and number combinations are probably the most easily individualized subjects. Spelling and reading are easiest in the intermediate grades; mathematics, shop, and perhaps grammar, in the junior high school; and mathematics, laboratory work, shop, and Latin in the senior high school. Each of these may now be considered briefly as illustrative of the type of work that would be done at the beginning of an attempt to individualize a school.

1. The Primary Grades

The sight words in the primary grades are usually definitely determined in each school system. The most scientific list for the first grade is probably that contained in the teachers' edition of the Buswell and Wheeler *Silent Reader*, although the lists published in the 17th and 20th *Yearbooks* of this society are also helpful. The testing of sight words is necessarily diagnostic if it is complete, since the teacher checks each child on all sight words in a short oral test. The materials for learning the sight words constitute the only obstacle to individualizing this part of the work.

It is beyond the scope of this section to describe in detail the necessary materials for each subject. Sight words involving action or names of things can, of course, easily be taught on an individual basis by the use of cards with a picture on one side and the sight

word on the other or by labels on objects in the room.² Other words have to be taught through context; the child learns, for instance, a Mother Goose rhyme and selects the sight words in that rhyme from their position in it.

The phonics work may be learned individually by some such devices as those described by Miss Jessie MacKinder in her book *Individual Instruction in Infant Schools*, referred to elsewhere in this *Yearbook*, (See bibliography.)

Possibly the easiest subject of all is number work. The preparation of cards with a number of rubber-stamped pictures or dots on one side, and the corresponding digit on the other, can be used for children to teach themselves their numbers, once they have learned to count. A set of cards with an addition combination on one side of each and the answer to that combination on the back, can be used for a variety of games that can be played by children alone or in pairs. Through such devices the children can teach themselves their number facts. Each child can stick to any group of facts until he has them mastered. A full description of such games and devices is given in the *Teacher's Manual for the Washburne Individual Arithmetic* (World Book Company).

2. The Intermediate Grades

Spelling can easily be individualized, either according to the method described in the *Horn-Ashbaugh Speller* (J. B. Lippincott Company), or that described in the *Teachers' Manual of the Individual Speller* (World Book Company). The reason that spelling is so easily individualized is that the objective is already so perfectly definite—the ability to spell correctly a given list of words. The general principle of individualizing the study of these words consists first, of dictating them in a pre-test before the child has studied them—preferably dictating the list twice through, to avoid accidental correct spelling. Each child studies then only the words he has missed in the pre-test. The devices for dictating these missed words and checking the results are described more fully in the above-named books.

² *Picture-Story Reading Lessons*, by Stuart A. Courtis, World Book Co., serve admirably for early work in individualization.

One objective of reading is the ability to read rapidly and with comprehension. The degree of speed and comprehension can readily be measured by various standardized silent reading tests. Speed and comprehension can usually be developed more readily by giving the child ample reading material that fits his reading ability than by any other means. The problem of individualizing reading then becomes largely one of determining a child's reading level and supplying him with ample material at that level along with some means of determining whether he has actually read the material supplied him.

The child's reading level can readily be determined by any good standardized silent reading test, such as the Stanford, Burgess, or Monroe.³ By comparison with the published standards of such tests each child's score will show the grade level of his reading ability. He can then be given books to read silently which are suitable for children of his reading grade.

Where the school furnishes the textbooks, it costs no more to furnish as many *different* reading books as there are children in any given room than it does to furnish the same number of books all alike. Where children are paying for their own texts, it is possible to secure a book fee from every child, equivalent to what he would have to pay for a reader, and with these lumped fees to buy a room library containing books at various levels of difficulty, so that proper provision can be made for each child. Where a state series of readers is foisted upon a school, it is at least possible for teachers to interchange these readers among themselves, so that each teacher has readers of several different grades in her room, to which can be added a good variety of supplementary reading. Arrangement with public libraries can also usually be made whereby a variety of books from the public library can be kept on the teacher's book shelf.

Through one or more of these means it is possible in any school system to see that each child has a book which fits his particular level of reading ability. This book he can read silently, and be tested on it briefly when he has completed it. Such oral reading as is

³*Stanford Silent Reading Tests*, World Book Co., Yonkers, New York. *Burgess Picture Scale*, Russell Sage Foundation, New York. *Monroe Silent Reading Test*, Public School Publishing Company, Bloomington, Illinois.

done can be done to the teacher alone rather than to the class as a whole—it takes no more time for a teacher to hear thirty or forty pupils reading to her alone, one at a time, than to hear each one read out loud to the class.

The books read can be tested in a variety of ways.⁴ One very simple method is to correlate book reports with English composition by letting children write compositions on each book they read.

Under this plan of individual reading, each child can read from ten to fifteen books a year. When he has read the required number, he can be re-tested with a silent reading test and his next group of books can be chosen from the grade level indicated by the results of this test.

Such individualization of reading can be done immediately in any school without additional expense and without additional burden to the teacher. It results in highly increased reading efficiency.

3. The Junior High School

By the time a child has reached the junior high school it is possible to use regular published texts to better advantage than in the lower grades. It also happens that in both mathematics and grammar there are junior-high-school books written for individual instruction, as indicated earlier in this section. The technique for individualizing such subjects, as mathematics and grammar is the general one described earlier—that of deciding definitely what degree of skill is needed, of preparing or selecting tests to determine whether or not this skill has been achieved, and of making assignments to the necessary text material for the achievement of this skill.

Shop work is individualized in many places. It is difficult to understand why it is not handled individually everywhere. If each child is making the thing in which he himself is interested and the teacher is helping where his help is needed, the work becomes individual without any special technique.

⁴The methods used in Winnetka are described fully by Willard Beatty and Marion Carswell in the *First Yearbook of the Department of Principals* of the National Education Association.

4. The Senior High School

Mathematics, and especially algebra, are so definite in their very nature that the re-statement of the course in terms of definite objectives is rather easy. To determine which of these objectives are legitimate is, of course, quite another matter, but one which has to do with curriculum construction rather than individualization. Successful individualization of mathematics in the high school requires at present the preparation of material to supplement whatever text is being used. This will follow the general technique outlined in the first part of this chapter.

Laboratory work in the senior high school is often individualized. A very real saving in equipment and apparatus can be achieved in this way, for children's progress is spread out to such an extent that only a small number of children need to use any particular piece of apparatus at the same time. Consequently, instead of it being necessary to have enough pieces of apparatus for all members of the class, a much smaller number will suffice. If students are allowed to progress through their laboratory manuals at their own rates, this part of the work, with the accompanying notebooks, can be on an entirely individual basis. The class discussions accompanying it will have to keep pace with the slower members of the class or the members will have to be grouped for discussion purposes according to their various stages of advancement.

Shop work in the senior high school, like that in the junior high school, can be put on an individual basis without any special technique or preparation of materials.

To individualize Latin, it is necessary to prepare supplementary materials to go with the texts. These materials will follow the general technique of individualization: a determination of exactly what rules, vocabulary, and translation ability are to be required of the pupils; a breaking up of these larger objectives into smaller work units; a preparation of tests to cover each of these units; a preparation of assignment sheets to accompany the Latin text; and a preparation of answer sheets by which the pupil can check the accuracy of his own prose composition or translation.

In any subject requiring the preparation of special materials, such as Latin, mathematics, English, or social studies, whether it be in the grades or in the high school, it is desirable to make the

preparation at least one semester before attempting to individualize the work. Individual work prepared under the pressure of keeping ahead of the class is likely to be poor and to result in discouragement and frazzled nerves on the part of the teacher. A study like reading or spelling or shop, however, can be individualized without such previous preparation.

When the general plan of individualized work is inaugurated in any subject, supervised study and diagnostic tests will entirely replace the recitation in this subject. There will, consequently, be an immediate saving of time in the daily program. Much or all of this saved time should be used for socialized activities which may or may not be connected with the individualized subject. In the periods formerly used for recitations it is quite possible to introduce activities of an entirely different sort and for which the schools have not previously had time. Such activities may include dramatizations, discussions of current topics, self-governing assemblies, or various types of projects in which the pupils learn to co-operate one with another and in which they are given an opportunity for creative work and self-expression. To clear time for these group and creative activities is one of the main purposes of individual instruction.

Individual progress, with enough practice on each step to secure mastery, is probably the most efficient way to handle the common essentials. But individual education is much more than giving children these essential knowledges and skills. We must develop each child's special interests and abilities, and we must train him in their use for the welfare of all.

Variation is an essential law of evolution. No progress is possible without it. Every child should, therefore, be given opportunity to vary—to exercise originality, to create things, to express himself. But if his special abilities are to become a contribution to society, he must know how to fit them in with the contributions of others. He must have social training.

This social training will consist of living and working with others. Projects—group activities toward a desired end, each child doing his particular part in co-operation with his fellows—give just such training. Discussions, too, are needed—the impact of mind on mind, each child giving to all and receiving from all. And children

need daily practice in good citizenship, in working for the common weal.

Individual work in the common essentials makes room for these things. No individual is educated without them. For it is only through the self-expressive and socialized activities that schools can fully develop each individual child.

At every step of the way, when one is individualizing school work, it is necessary to keep the parents in sympathetic touch with what the schools are doing. Those teachers and administrators who have individualized the work of their schools have not, so far, met serious parental objections. Such objections as have come, have usually been the result of misunderstandings and have been rather easily straightened out. But objections are reduced to a minimum and support increased through parent-teacher meetings, publicity in the local newspapers, and talks before such local organizations as Rotary and Kiwanis Clubs, and women's clubs.

It is usually better to inform the parents of each step *after* the step is taken. It is easier for them to understand an accomplished fact than a proposed plan. When a particular subject has been put upon an individual basis, the method of handling that subject can rather easily be explained. It is not necessary to inform the parents concerning the whole plan beforehand, but it is well to keep them in close touch with the work that is being done.

As a matter of fact, however, the right presentation of the entire idea of individual instruction usually enlists pretty general support among parents. The chief objectors are school teachers and superintendents who have long been in the habit of thinking in terms of the old class unit. To parents it seems a perfectly natural thing to insist that each child master each step of his work, and to allow each child to progress as rapidly as his ability permits.

C. SUMMARY

The general program, then, for individualizing the work in a school would consist of the following steps:

1. Select one or a few teachers who are likely to make the experiment a success. Secure their whole-hearted interest and co-operation.

2. Determine which subject or subjects are to be first individualized, selecting those which can be put on an individual basis easily.
 3. Decide the exact amount of knowledge and skill to be mastered in the individualized subjects. State this in terms of goals of achievement.
 4. Prepare or select complete diagnostic tests to cover all these goals of achievement.
 5. Select textbooks prepared for individual instruction or prepare assignment sheets to accompany the ordinary type of textbook. These assignment sheets should contain definite directions to the child as to what parts of the text he is to study, supplementary practice exercises, and self-correction answer sheets for all exercises.
 6. Prepare a simple record system to keep track of children's individual progress.
 7. Permit each child to progress through his assignment sheets or individual instruction books at his own rate, testing him on each unit of work as soon as he completes it. Never allow him (unless he is subnormal in mentality or health) to proceed with one unit until he has mastered the preceding one.
 8. Abandon all recitations in the individualized subjects, substituting supervised study and objective tests for the recitations.
 9. Use the saved time each day for group and creative activities.
 10. Keep the parents in close touch with the salient features as these become accomplished facts.
- By following some such program, it is possible to adapt schools to the varying needs of the children.

SECTION VI

AN EFFORT AT APPRAISAL

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The problem raised in this study is no simple one of devices. It cuts much deeper and in this depth lies its difficulty, because it involves in varying aspects one of the most fundamental of human problems—how to relate the individual to the larger group. Throughout history is to be seen the struggle to maintain freedom through law and institution. Without using institutional forms, the individual can neither co-operate effectively with his fellows nor derive adequate profit from the experience of his forebears. But nothing is better established than the repressing effect at times of institutions upon individual life and endeavor. An essential problem has thus ever been how to devise institutions that express without unduly repressing human life and aspiration.

So with our problem. Up to about a century ago, the children of our schools had only individual instruction, and in this absence of group effort and co-operative activity much was lost. The coming of class teaching was counted a great advance. For some purposes it was a great advance. It remains, we may confidently assert, a permanent contribution to educational procedure. But as we developed class procedure to its completer form and contrived textbooks and groupings and promotions to fit it, we began to find that not all was good. No one procedure would fit equally well all the children put into any one class. It was the old problem of institution and individual all over again. And, as always, the easiest solution was to hold to the institution and let the individual suffer. So we did. We held to our class procedure and let it drive out of school large numbers who did not fit. But latterly, two things have happened. First, by reason of law and otherwise, children increasingly cease to drop out of school. The misfits won't be so disposed of. Second, we have better measuring rods. We now know, where heretofore we guessed about, the inadequacy of our treatment. The situation is now shown in its ugly nakedness and is intolerable.

But this is not all. Our problem is even more complicated. Difficult as it is to adjust our institutions to individual differences, we have not yet seen the whole problem. We must ask about the theories of education involved. To advocate any specific program is in actuality to advocate all the consequences that attend the program, even though one be ignorant of what these attendant consequences may be. It is the special task of educational theory to find and exhibit such connections and with each proposed theory of education to join its legitimate tendencies. Whoever, then, advocates any specific procedure is in fact advocating the educational theory of which that procedure is the necessary part and parcel. Every school official whose decision determines what procedure shall obtain within his school system bases his decision—whether he knows it or not or cares or not—on some implied aim and essence of education. Any scientific student who tells the classroom teacher just what to do in teaching spelling is likewise assuming—possibly in equal ignorance—an aim and essence for education. Such an assumption is unavoidable in the face of actual procedure, for any actual procedure brings in its wake a whole train of educative effect. Not simply spelling is taught, but through a multitude of marginal stimulations and responses life in remote consequences is affected. When every advocated procedure entails inevitably each its train of characteristic life consequences, the obligation on us is imperative. We must for any proposed procedure examine the educational theory implicitly involved and as best we can forecast its train of probable attendant consequences.

Happily in the situation confronting us the examination need not be unduly long or systematic. The leading contributors have so well expressed themselves in the preceding pages that little or no comment there is needed, and especially so as this reviewer lacks in first-hand contacts. The effort is thus rather to single out a few more important assumptions and discuss their implications in the hope of presenting bases for valuation and judgment. To shorten the discussion, it seems wise to limit attention to the two most widely discussed plans, the Dalton and the Winnetka.

The essence of the Dalton plan seems to be an administrative device whereby individuals may, on an individual basis, acquire fixed quotas of subject matter within specified times. The Dalton notion

of the individual basis is very attractive, for every sensitive teacher has felt the difficulties due to individual differences.

For our purposes we may pass by the more obvious matters already sufficiently discussed in the preceding pages, and consider the attendant learnings that accompany the greater individual freedom, those concomitant by-products of the system, the learnings that come especially from the marginal stimulations and responses. Foremost among these is acquiring a better sense of responsibility. It is obvious that the Dalton plan gives wider scope for pupil responsibility, and we may be reasonably sure that here, as always, practice with success and satisfaction will bring its reward. If the plan works—and there seems much favorable testimony—we may confidently expect the pupils to gain in the responsibility exercised. To ask, as we must, how far this gain will extend itself to the exercise of responsibility in other fields is to bring up the whole knotty question of the transfer of training; but, as has often been pointed out, even a slight gain in a widely used trait is in effect a great gain. We can approve, then, this definite feature of the Dalton plan. Its possibilities are significant.

Another gain claimed is in the matter of time-budgeting. The same discussion will hold identically. The satisfactory exercise of this may be expected to show a gain which, even though small in other fields, is so often called into use as again to promise a valuable result.

A further attendant learning is in the line of social relationships. To allow this claim may occasion surprise to some, since a frequent—and probably just—criticism of the Dalton plan is its lack of group work. But the matter seems clear. There are actual social relationships which—as far as they go—are very good. These individual children accepting personal responsibility for their quotas of knowledge have the freedom which we adults constantly exercise of seeking help—and consolation—from fellows and at times from superiors. There is no small social effect in merely talking over accepted tasks. Such talk is far and away more social—and in like degree more educative—than our common class recitations where there is but little real communication and consequently but small incentive either to listen or to talk. In fact, joint endeavor is in the Dalton plan quite possible along some lines, nay almost certain if

only this be sought and the tasks (jobs, goals, assignments) be well devised.

A further important feature of these attendant learnings are the more wholesome attitudes that may very well result. A better self-respect is quite possible—may, indeed, be confidently expected in the degree that the other learnings are good. Much the same may be said of the changed attitude toward school, toward study, and perhaps most of all toward the teacher. With all such attendant learnings, as everywhere in life, nothing succeeds like success. If the children accept the tasks they face and feel that they are succeeding with them, many favorable attendant learnings are almost sure to come.

These results claimed have an undoubted appeal. We need hardly be surprised at the wide acceptance of the Dalton plan, especially among those who do not question either the traditional curriculum or the usual conception that the proper aim of schooling is the examination-mastering of subject matter. England's acclaim of the Dalton plan is an illustration. That country had been stirred by the war to demand new things of, and in, education. Montessori's years in London just preceding had prepared the ground. Then came the Dalton plan as something new, requiring a minimum of theory adjustment and allowing a maximum of appeal to two deeply rooted British beliefs—first, in individual initiative, and second, in school-room education as a preparation for written examinations. Under these circumstances, the results are what might almost have been foretold.

But it is not easy to accept the Dalton plan as final. As a new broom, it will often sweep better at first than later. The element of competition among the pupils, strong at first, will often reach equilibrium on a less strenuous level. Moreover, not all the subjects will lend themselves equally well to the treatment. More conferences of pupils with teachers will prove necessary. Deviations forward and back from the plan will be tried. Group work must be provided. Individualized schooling was too seriously tried in the long centuries preceding Joseph Lancaster for us to believe that our educational salvation lies in any exclusive return thither. But we can be equally sure that our present lock-step can never be made satisfactory. Does the solution lie in saying that we need both individual and class

work? Perhaps so; nay, probably so but still more probable is it that no mere mechanical mixture of the two will suffice. The solution lies deeper. In the judgment of the present critic both individual education and group education, as hitherto taken, are alike fatally defective.

To intervene in a quarrel is always hazardous of old, and to say that both contestants are wrong seems madness itself. Yet this is the indictment here offered. The chief criticism of the Dalton plan is not found so much in its difference from the common plan as where they agree. Both sides have assumed that education properly consists in acquiring fixed-in-advance subject matter presumably to be used at some later time, typically in adult life. The Dalton plan is perhaps a little more open in the use of this conception and apparently a little more content to rely on it. Possibly we should thank its advocates for unwittingly bringing the issue more clearly into the open.

Why say that this common assumption is a defect? What is the bill of particulars? Has the education of the schoolroom no serviceable function? Shall the education of the child not prepare him for his future? Let it be answered at once and emphatically. The school is to be judged by the service it renders, renders to the child and to society; and any scheme of education which does not result in the young growing properly up into adult life is justly to be condemned. But neither of these considerations, nor both put together, justifies us in reducing the education of childhood to learning what merely the adult will need. The gap between childhood and adulthood is too great. To disregard this gap, to reduce education to mere preparation, this is the fatal defect seen alike in the Dalton plan and the common notion. To reduce education in this fashion is to sacrifice the intrinsic drives and the intrinsic thought connections which are essential if education is to perform its proper and necessary service.

If this be the fatal defect, if education must not be conceived essentially or even primarily as preparation for adulthood, how shall we conceive it? What is the opposed conception that is to be preferred?¹

¹ Unfortunately, the space available suffices only for a condensed presentation of the case. The writer has discussed certain other phases of the matter in the *Journal of Educational Method* 2: 94-101, 230-236, 367-376; 4: 3-10. See also J. Dewey, *Democracy and Education*, pp. 49-65.

The opposing conception is that of the *continuous* remaking of the child life to ever higher and richer levels. This assumes first of all that the child as a behaving organism is *essentially* active, even in a true sense and in growing degree self-active, increasingly setting up the ends which it pursues. This assumes, second, that learning is intrinsically connected with the child's growing stream of activity; that subject matter is called for when the present stream is dammed for lack of a needed behavior-response—for instance, when the child must learn to balance himself in order to skate—and that subject matter thus serves by introducing the needed way-of-behaving not only to set the stream moving again (he now can skate), but as well to enrich life by what the new acquisition means in new possibilities skating parties, wider acquaintanceships, more sociability, better health, etc.).

This intrinsic learning to meet a present impinging situation of difficulty, be it noted in passing, is older in man than is man himself. It has, moreover, always been man's prime means of adjustment in his ever active struggle for existence. About it, thus functioning, man as a behaving organism has evolved, both mentally and socially. A factor and procedure so deeply rooted in the child's life and nervous structure cannot be ignored or lightly relegated to subordination. Rightly used, it will serve to bring a more adequate preparation for the child's future, but any attempt at preparation which rejects or ignores it will fail and must fail. To change nature, we must use nature. To ignore the bounds set by nature is to reject by so much the resources which nature offers. When we set the child to preparing for too distant a future by 'learning' things which are extrinsic to life as he now lives it, we are thereby ignoring the essence of the learning situation and we do so with loss. We must lose whenever we ignore the bounds set by nature.

But this is not all. This opposing conception of the *continuous remaking* of life assumes, third, that the learner's behavior in any experience is seldom or never simple or single; that, contrariwise, the stimulating situation is necessarily complex, the varied elements in it appealing to many different sensitivities in human nature to produce at least marginally a variety of simultaneous responses; and that, among these many marginal responses, those having to do with building attitudes are of especial importance upon character

and subsequent life. It follows, then, that no appraisal of learning outcomes can be based solely or even principally upon such single learning results as spelling or punctuation, however much the teacher or the school may elect to fasten exclusive attention for the time upon these. The attendant learnings are always present in fact in every single experience and will not be ignored in their future results. The total educational outcome must always be weighed in any effort to appraise a proposed procedure.

The essence, then, of the conception here opposed both to the Dalton plan and to the common notion is thus that education is properly conceived as the *continuous* remaking of the child's life to ever higher and richer levels. It demands that subject matter be conceived as ways-of-behaving, behaving here and now, be it said, actual ways of behaving, better tested too on Saturdays and on holidays than in the examination room. To test whether learning has taken place, it accordingly asks whether the child does in fact behave differently. Has the new way of behavior actually been incorporated into the child's life? And behavior here must be interpreted as widely as the very boundaries of child life. Nothing good is excluded from consideration. The child's progress is thus to be measured by his resulting life. Does he now *see* better what to do than formerly? *Will* he now choose more wisely and intelligently because of his better outlook and insight? *Can* he now better execute what he has more wisely chosen? *See, can, will*—these are our test words. In short, does the child's life grow progressively richer by reason of what he learns? If yes, then we are on the right line. If no, then something is wrong, no matter what formal tests the child can pass.

The essential error of the Dalton plan, then, is, as with all external examination schemes, that it accepts childhood as a time of storing up learnings to be used when called for at a remote day, typically in adult life. It is on this assumed theory that it sets up its series of learning stints reaching upwards from the fourth grade.² It assumes that a child can learn these successive stints and hold them stored up available for use when they shall later be called for. It further assumes that it does not hurt the child to be treated in this way.

²We may easily believe that its principal author had had too much sympathetic contact with the young child to be willing to reduce the education for the tenderer years to a series of stints.

Both assumptions are here denied, at least to a degree to condemn the practice. But few things, comparatively speaking, can be so learned long in advance of use to stay with one till the distant use shall come. And the hurt, positive and negative, to the ordinary child when so treated is probably very great. In most schools the attitude of opposition to school, books, intellectual matters, to all standards advocated by teachers of all kinds, is as a rule very great, greater than many good people seem to realize. Under the Dalton plan, the positive hurt here is, as was pointed out, somewhat lessened by the greater child participation—possibly in certain matters altogether removed. But the negative hurt, the loss of opportunities that a better régime would bring, is probably greater under the more mechanical setting of stints than under the classroom régime. For class discussions, if raised above mere testing, can be made very educative. In this, the Winnetka plan seems to offer much more than the Dalton. To Winnetka let us, then, turn our attention.

The Winnetka plan differs from the Dalton plan essentially in providing two types of learning. One, learning by goals, parallels the Dalton plan; the other, the socialized (class) work, has no counterpart in that plan. This feature would seem, in fact, well-nigh unique in American public education in that it sets no subject matter requirements (as these are commonly understood). To this attractive idea, we later return. The Winnetka scheme for learning by set goals is, by comparison, a refinement upon the Dalton plan, but differs also in not setting time limits. The meaning and bearing of these features have been well brought out in the preceding discussions. Here, however, credit should be given to Mr. Washburne (which he, in turn, courteously shares with Burk and Courtis) for his very commendable efforts to supply learning material in a form which approximately frees the child to teach himself. It is frankly admitted that, so far, not all subjects have yielded to this treatment. A like difficulty is noted also by the users of the Dalton plan. And the difficulty would seem to be fundamental, pointing perhaps to a fundamental criticism and suggestion later to be made of the general notion.

The term "the common essentials" is used at Winnetka to refer to the subject matter content assigned for learning by "goals." By this Mr. Washburne means "certain knowledges and skills . . . needed

by every child." That there are certain knowledges and skills which are needed by each child need not be disputed; but there are decided difficulties with the implications. First, it is implied that such an "essential" can be learned in isolation from its "natural setting" (to use Charters' term). This, it would seem certain, is only partially true. Second, it is implied that so large a body of such "essentials" can be definitely named. The more definitely this is tried, the further off does agreement seem to betake itself. Third, it is implied that "*the* common essentials" should consist exclusively of "knowledges" ("facts" were perhaps a better term) and skills. Surely this cannot be true. To leave out common honesty and truthfulness from any list of "common essentials" is at once to queer the list. Why are they omitted? Is it that they are not needed? Certainly not. The reason they are omitted is that they do not lend themselves to assignment by "goals." In other words, the phrase "*the* common essentials" carries with it just a shade of rationalization. The content is chosen on one basis; a name that implies a better basis is then given. Not "*the* common essentials," but "some common essentials that lend themselves to self-teaching assignment"—these constitute the content of the first part of the Winnetka scheme. The first and third of the implications named above call for further consideration. Let us begin with the third.

To dispute about terms can be the most fruitless of undertakings. But exception must be taken where a term so effectually 'begs the question' as to cover up an essential issue. This the term, "*the* common essentials," seems to do. So soon as we write it "some common essentials that lend themselves to self-teaching assignment," questions at once arise. What about the other "common essentials" that are not so taught? What are they? How important are they? Are we sufficiently providing for them? If we consider the matter, we seem led to conclude that desirable educational outcomes, the real common essentials, range themselves on a scale from those (a) that most readily lend themselves to specific assignment-under-penalty through (b) those that are partly so assignable up to (c) those that cannot be so assigned. We see at once that Winnetka undertakes to provide for the two ends of the scale by its two very different kinds of procedure. We also see that the subtle end of the scale—attitudes, ideals, appreciations—is no less essential

than the other end of the scale. Possibly if there is any difference, the more subtle are also more essential. We then wonder about the middle of the distribution scale. Is Winnetka sufficiently caring for it? More generally, can an out-and-out dualistic scheme adequately care for a continuous distribution? Does not the underlying theory of such a procedure need to be examined?

To return now to the first implication, that these "essentials" can be learned singly and in isolation from their "natural setting." Here again, our inquiry cuts deep. When is a thing learned? An answer satisfactory in the psychological laboratory is not necessarily satisfactory in life. Our words *see*, *will*, *can*, used above, will possibly carry the answer for life. Merely to be able to give back on the demand of another is not sufficient. The learner must himself recognize (*see*) the situation that calls for the response in question. Such recognition should (*will*) then—normally—be followed by the response; and this response should have been so perfected that it can effectually work (*can*). Does the learner *see* what to do? *Can* he do it? *Will* he do it? These three must all be present before the "essential" has been learned. The danger of teaching facts and skills in isolation is that one gets mainly the *can*; hardly, if at all, the *see*, the recognition of the proper situation; and hardly, if at all, the *will*, the tendency to act upon a perceived demand. Many considerations unite to make us believe all three must come together.

Does the preceding conclusion mean that there is no place for drill? Emphatically no. Drill is often essential, but how best to get it is not so easy to answer. We seem to have two factors involved—first, the perfection of a detailed movement; second, the junction of this detail in its appropriate hierarchy of habits. If we could disregard the latter (and all attendant learnings), efficiently 'motivated' drill might care for the former. Why not, then, first learn the separate detail and join later? The answer seems to be two-fold. First, 'separate' learning is not in fact separate. On the 'separate' basis, the cue to respond comes simply from some artificial or abnormal element in the situation, the word of the teacher or the place in the book or the like, and not from the normal situation. We are learning then to respond to the wrong cue and this must later be unlearned. If possible, the connections—cut and all—had better be made as we expect them to work. Second, the attempt to learn

'separately' is likely to lack felt pertinence to life as the learner sees life, especially if the learner be a child and what is to be learned concerns only adult life. Thus, lacking felt pertinence, it is likely to become distasteful. If this be pronounced, not only is the immediate (focal) learning effect lessened, but a host of unfavorable attendant (marginal) responses are likely to result. The subject of study, the school, the teacher, may become in greater or less degree objects of dislike. No one general answer to the problem of drill seems possible, but two tendencies are discernible. First that we should seek occasions for learning as far as feasible in "experiences of normal living" (to use Bobbitt's phrase). These experiences tend to place together for learning what must go together in life and thus promise a maximum of transfer to life. For a century, it seems clear, this tendency has been gathering momentum. The second growing tendency is that, where drill is needed beyond what is thus inherently supplied, we should seek to get it after the situation calling for it has been so met that the need for it can be seen and felt. This 'felt need' tends to change the learner's attitude so that good, and not bad, learning effects may be expected.

Before drawing the conclusion from these four paragraphs on learning by goals at Winnetka, one further thought may be helpful. Mention was made above of a "hierarchy of habits." The conception is most useful, but let us for the moment extend it beyond the habits most immediately involved in any specific movement so as to include all of the constituent responses of all kinds that enter into any deliberate act. Clearly, the laws of habit formation apply, *mutatis mutandis*, as truly to this whole aggregate as to the smaller hierarchy more commonly considered. Without going into argument, it is easy to see that by the interlinking of many such hierarchies is built that aggregate organization which we call the 'self.' Contending divisions within the self have been noted at least from Plato down, together with the evil effects of such disunion. The "war of the members," the "flesh lusting against the spirit," a "double life"—these age-old conceptions indicate in some measure the dangers—not to call in the more repellent discussions of some moderns. If all one's inner resources are so fitly joined together and organized—thoughts, emotions, ideals, attitudes, habits, skills, points of view, interests, appreciations, informations, in whatsoever terms we may

name them—that in any crisis all are available first to give one's 'best judgment' a chance to come into play and assume control and then, if need be, to have all one's 'powers of execution' act without hindrance—if these things can be, surely one is greatly advantaged. From such a unified organization, we may confidently expect, not only greater efficiency of practical behavior, but also greater happiness of inner harmony, and in it all better moral conduct. We may then say that a unified, rather than a divided, self is a proper end of endeavor, and in this we find accordingly another criterion by which to judge of educational procedure.

What does this criterion of the unified self tell us about education? How shall we as teachers help our children to build unified selves? Partly by seeking to enlarge the range of meanings on which they act, partly by having them act wholeheartedly as often as possible. These are stated positively. Negatively, let us keep our children from living double lives—part open, avowed and ostensible; part hidden, secret, forbidden. The moralists and teachers of the world have much to answer for in the way they have—in actual result—driven healthily active young people into double lives. We wish to scrutinize very, very closely any divisive scheme or plan of action which tends to break the child's life into two non-interacting parts. This is one practical reason for not opposing childhood and adulthood to each other as if they differed in kind when in blessed fact they differ only in degree. In this we have another wording for the indictment brought against education as mere preparation. When it is demanded that childhood spend its best endeavor working at anything which is not continuous with its own growing life, we force upon the child a double life. On the one hand, the unity of self-hood; on the other, the unity and continuity of life—these are two correlative ways of stating the ideal we here uphold.

And what now is the conclusion regarding Winnetka's plan of learning by goals? First and foremost, it tends to break the child's learning into two disconnected parts. One part, highly mechanical, belongs to the system of goals—a system too nearly complete in itself, too little connected with life. Stated psychologically, the danger is that the learning will not transfer. Stated in terms of life, the danger is a divided self—that the child will look on learning as

something apart from life, something to be 'learned' and then put behind him. If it be rejoined that the freer classwork at Winnetka counteracts this danger, the answer comes that the freer work does seem to be in far greater degree continuous with life, but the gap still remains between the individual drill work and the freer group work. The two parts of school do not connect. And unfortunately, in the whole discussion at Winnetka, learning by goals seems to be counted as the essential. The chosen term implies it, and it is only the time saved from the goal work that is available for the other. If further rejoinder be made that the children are happy, that they like not only the freer group work but quite as well to work for goals, then we have to say that present happiness, though a good, can never be taken by itself as final. The question of long run effect must decide. That the Winnetka plan of goals is a better way of doing many of the things the ordinary school tries less successfully to do, may well be admitted. But unless the danger of little transfer and the danger of the divided self can be better safeguarded, the present writer, for one, does not believe that learning by goals will continue to hold its present prominence at Winnetka.

When we turn to the other feature of the work at Winnetka, the situation is more defensible. It is a pleasure to commend the socialized work. Here there need be no divided self. Continuity with the rest of child life is possible. Here can be got the learning "through experiences of normal living" presented by Professor Bobbitt, with its emphasis upon "spontaneous, voluntary, and self-directed work." Could we make this the main part of school? And if so, what about the needed facts and skills? Mr. Courtis' answer seems to point the open way: "An ideal course of study would consist of two parts: (1) a series of social projects in which there would be need for the use of fundamental skills in meaningful situations, and (2) a series of self-instructive, self-appraising practice exercises so closely correlated with the project work that children could avail themselves of drill exercises as they became conscious of the need."³ It is most interesting to see here represented both features of the Winnetka plan, with the emphasis reversed. In this, first things come first. Will it work? The present writer believes yes. Once we understand how few drilled facts and skills we really

³ Quoted from Mr. Courtis elsewhere in this *Yearbook*.

need and how few of desirable outcomes can be got by separate drill, we shall find the task much easier. Collings' remarkable success with both skills and attitudes ⁴ shows at least what a rural school can do, once we apply both faith and effort. The various experiences described in this study increase one's faith. The second feature at Winnetka, with the first duly subordinated, holds much promise for the future.

And this seems the final conclusion. We must have both individualized work and group work. But we must revise the common notion of what constitutes the school's task. Education is not acquiring specified subject matter fixed in advance; it is the continuous remaking of life by acquiring subject matter as it is needed for present behavior. When we can see this and can understand the necessity for the unity of self-hood, then we shall see why drill, though necessary, must be subordinated to life—why the school, to be finally satisfactory, must be continuous with life.

⁴ Ellsworth Collings, *An Experiment with a Project Curriculum* (Macmillan, 1923).

SECTION VII

AN ANNOTATED BIBLIOGRAPHY ON ADAPTING SCHOOLS TO INDIVIDUAL DIFFERENCES ¹

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Since the essential purpose of this *Yearbook* is to show how schools have adapted their procedures to individual differences in pupils, the scope of the bibliography was planned with the same end in view. The existence of individual differences was taken for granted.

The bibliography is classified into four parts: Part I, individual instruction, with special sections on the Dalton plan, the Decroly method, and the Winnetka plan; Part II, classification, ability grouping, and promotion plans; Part III, supervised study; and Part IV, differentiated curricula and courses of study. The fact that schools are providing special classes for gifted and backward children, mental defectives, and the physically handicapped has not been considered.

The bibliography does not claim to be complete. Limitations of resources and time have prevented that accomplishment. In all parts but the first, it was expedient to cite standard bibliographies and then to supplement and bring these up to date. Attention is called to certain policies which have been followed. No specific entry appears more than once. If it contains material which classifies in several parts, it is placed in that part to which it first contributes. Where the entries have no annotations or the citations are incomplete, the compiler did not have access to the material but deemed it of too great importance to be omitted.

¹ Acknowledgments are due Dr. B. R. Buckingham, Director, Bureau of Educational Research, Ohio State University, for helpful guidance and advice and to members of the Committee and contributors of this *Yearbook* for suggested titles.

PART I. INDIVIDUAL INSTRUCTION, THE DALTON PLAN, THE DECROLY METHOD, AND THE WINNETKA PLAN

A. INDIVIDUAL INSTRUCTION

ALEXANDER, MARIE. "Individualized instruction in third-grade number." *Virginia Journal of Education*. 18:49-50. October, 1924.

The fundamental skills may be taught each child through activities or projects, so checked that each day's learning is definitely measured. The scheme is clearly explained.

ANDREW, M. F. "The problem of individualizing instruction." *Education*. 26:129-136. November, 1905.

"Many of our best thinkers and teachers have been pleading for individual instruction, but the great mass of our profession is afraid of the plan. But it can and will be done in these United States."

ARNOLD, F. J. "Machinery for individual promotion and classification of pupils." *Kentucky High School Quarterly*. 9:1-54. July, 1923.

Reviews the most successful plans which have developed to break the lock-step shift. Is somewhat partial to the Winnetka individual instruction plan.

BAER, J. A. *Individual Differences Among Pupils*. Cleveland, Ohio, Cuyahoga County Board of Education, 1922. 28 pp.

Handbook for teachers in which there is set forth various methods of meeting the problem of individual differences.

BAGLEY, W. C. and KEITH, J. A. H. "Adapting materials to individual capacities." (In their *Introduction to Teaching*. New York, The Macmillan Company, 1924. pp. 180-209.)

A summary of the methods which have been used and are being used. Concludes that much can be done to adapt teaching materials to the differences in the needs and capacities of pupils.

BAGLEY, W. C. "The Batavia system of class-individual instruction." (In his *Classroom Management*. New York, The Macmillan Company, 1907. pp. 214-224.)

States that this system is the most successful method yet devised of effecting a compromise between the individual and class methods. Statement made in 1907. The system is carefully explained.

BALCH, G. D. "Individual work." *Journal of Rural Education*. 3:129-132. November, 1923.

Relates how the individual method of instruction was introduced and successfully conducted in a rural school in Connecticut.

BIGELOW, L. E. "Individual assignments in geography." *Elementary School Journal*. 9:250-256. January, 1909.

By assigning each pupil in her class the article best suited to his particular temperament and so of real interest to him, the teacher was able to secure gratifying results. References to materials used in the seventh grade for one year are included.

BOSTON. Special Class Teachers. *The Boston Way; Plans for the Development of the Individual Child*. Concord, N. H., The Rumford Press, 1917. 127 pp.

BOWLES, MAUDE. "A sixth-grade English project." *Detroit Journal of Education*. 3:30-33. September, 1922.

An experiment with pupils of low intelligence scores. The type of teaching used forced the pupils to take the initiative and rely upon themselves. The results were very satisfactory.

BOWMAN, E. C. "A plan for dealing with individual differences." *West Virginia School Journal*. 53:22-32. September, 1924.

Believes that by varied assignments a considerable measure of success may be attained by individuals of varying ability. The plan is explained in detail.

BOYER, P. A. *The Adjustment of a School to Individual and Community Needs*. Philadelphia, University of Pennsylvania, 1920. 141 pp.

"Chapter VI deals more specifically with ways and means of adjusting the school to the needs of pupils, assuming no increase of funds or radical modification of the plans."

BROWN, S. W. "Some experiments in elementary-school organization." (in National Education Association. *Addresses and Proceedings, 1913*. pp. 458-463.)

Three problems demand solution: the problems of curriculum, classification, and instruction. The author discusses these briefly in the light of certain experiments he has carried on. He champions the rights and needs of each individual pupil.

BUCKINGHAM, B. R. "Individualizing instruction on the basis of testing, with special reference to arithmetic." *Proceedings of Second Annual Conference on Educational Research and Guidance*. Sacramento, Calif., California State Printing Office, 1923. pp. 16-32. (San Jose State Teachers College Bulletin.)

A very clear statement as to the procedure which should follow the giving of tests, if each individual child is to be benefited. Specific cases are analyzed and remedial measures indicated.

BURK, FREDERIC. "Breaking the lock step." *Journal of the National Education Association*. 13:123-124. April, 1924; also in *Progressive Education*. 1:8-10. April, 1924.

This résumé shows the benefits which follow the introduction of individual instruction into a system, the difficulties which beset its course, the consequent revolution of administrative mechanisms, and its constant adaptation to new conditions.

BURK, FREDERIC. "The desire to know, educational dynamo." *Normal Instructor and Primary Plans*. 34: 30, 95. December, 1924.

Probably the last article written for publication by that pioneer of individual instruction, the late Frederic Burk.

BURK, FREDERIC. "Education by dynamism." *Journal of the Association of Collegiate Alumnae*. Vol. 10. December, 1917.

Excellent presentation of a vital principle of education which when followed to its logical sequence would necessitate an individual system of education in both schools and colleges.

BURK, FREDERIC. *Every Child a Minor, vs. Lock-Step Schooling: A Suit in Equity*. Sacramento, Calif., State Printing Office, 1915. 72 pp. (San Francisco State Normal School. Monograph C.)

"Data of two years' experience in operation of a system of individual instruction showing accelerated rates of pupils' progress, elimination of wastes of school time, actual saving in cost of schooling and adaptability to various schools."

BURK, FREDERIC. "Individual instruction vs. the lock-step." *Sierra Educational News*. Vol. 13. July-August, 1917.

BURK, FREDERIC. "Individual instruction vs. the lock-step system." *Normal Instructor and Primary Plans*. 26:18, 69. January, 1917; 26:34, 68. February, 1917; 26:30, 71. March, 1917; 26: 32, 72-73. April, 1917. The last three of these articles are contained in *American City*. 18:327-330. April, 1918.

Describes individual schooling in operation in the Elementary Department of the State Normal School at San Francisco. Suggests how individual teaching may be introduced into rural and city schools. Maintains that the individual plan will be less expensive than the class plan.

BURK, FREDERIC. *A remedy for Lock-Step Schooling; A Preliminary Report upon the Weakness and Impossibilities of the Class System of Instruction, and Progress to Date in Substituting Therefor an Individual System of Teaching*. Sacramento, Calif., State Printing Office, 1913. 25 pp. (San Francisco State Normal School. Monograph A.)

Points out the inadequacy and evils of the class system of instruction and describes the method which the Elementary Department of the San Francisco State Normal School has substituted for this class lock-step.

BURK, FREDERIC and WASHBURN, C. W. "The reorganization of normal school professional courses." *School and Society*. 8:382-385. September 28, 1918.

Most professional training has failed to produce desired results because there has been too much of abstraction and theory. What is needed are responsible teaching experience and a study of the whole conduct of individual children. Courses are suggested.

CALDWELL, O. W. "The laboratory method and high-school efficiency." *Popular Science Monthly*. 82:243-251. March, 1913.

Discusses some important experiments which have been made to determine the relative value of directed and individual classroom study.

CALDWELL, O. W. and COURTIS, S. A. *Then and Now in Education, 1845:1923*. Yonkers-on-Hudson, N. Y., World Book Company, 1924. pp. 124-126; 155-157.

"By far the most remarkable gain in the seventy-five years that have passed since 1845 is the growing tendency toward individualization of mass instruction."

CERTAIN, C. C. "The adjustment of the individual to the social group." *Detroit Journal of Education*. 3:458-459. June, 1923.

Lists fourteen personal and collective activities by which this adjustment may be attained.

CERTAIN, C. C. "Why individualization?" *The Detroit Journal of Education*. 3:282. February, 1923.

An editorial. Does not believe that the individualization of instruction is advantageous to individual children.

CHASE, S. E. "Provide for individual differences." *Journal of Education*. 99:464-465. April 24, 1924.

Lists the provisions made for individual differences in an elementary school of Hackensack, New Jersey.

COURTIS, S. A. "Education as purposing." *Detroit Journal of Education*. 2:3-6. February, 1922.

"The immediate problem before the teaching profession is to convert the aims and methods of education from the autocratic mass imposition of knowledge and skill, which prevailed in the past, to the democratic method of individual purposing in a social environment."

COURTIS, S. A. "Educational diagnosis." *Normal Instructor and Primary Plans*. 26:45-46. December, 1916.

Measurements are especially helpful to the teacher in studying individual children since they help her locate their difficulties and point out the necessary adjustments.

COURTIS, S. A. "Educational service stations." (In Thompson, F. V. *Schooling of the Immigrant*. New York, Harper and Brothers, 1920. pp. 239-261.)

COURTIS, S. A. "Making teaching efficient." *Normal Instructor and Primary Plans*. 26:53-54, 82. November, 1916.

Discusses the usefulness of measurements and illustrates his points in the teaching of arithmetic. Explains that the Courtis practice tests, if rightly handled, will provide for individual adjustment of work even in large classes. They will also reveal the child in need of assistance and the nature of the assistance needed.

COURTIS, S. A. "Measuring the child's capacity." *Normal Instructor and Primary Plans*. 26:31. October, 1916.

COURTIS, S. A. "Mental blindness." *Journal of Educational Research*. 10:399-401. December, 1924.

This spirited editorial points out that the sectioning of classes into homogeneous groups of pupils is only a step in the direction of ultimate individualization of instruction.

COURTIS, S. A. "Round table on limitation of training." *Second Annual Conference on Educational Measurements*. Bloomington, Ind., Extension Division of Indiana University, 1915. pp. 69-84. (Indiana University Bulletin. Vol. 13, No. 11. October, 1915.)

Standards should be set up in every grade for the amount of skill required in each subject. When the pupil has attained that standard, he should be given other work during the drill period. Carrying this plan to its ultimate completion would mean a reorganization of our schools. The future school is described.

COXE, W. W. and RICHARDS, E. B. *Suggestions for Teaching Silent Reading*. Albany, N. Y., The University of the State of New York Press, 1924. 35 pp. (University of the State of New York Bulletin, No. 803. May 1, 1924.)

Contains helpful advice on how to improve the reading habits of children of varying ability.

DECROLY, OVIDE. See Section C of this part of the bibliography.

DEFFENBAUGH, W. S. "Let the children advance according to individual ability." *School Life*. 10:97-98. January, 1925.

A brief survey of the movement for individual instruction. Its beginnings, progress and present trends are presented. It should be fostered as a means of breaking the lock-step in our schools.

DEIHL, J. D. "Individual differences and note-book work in modern foreign languages." *Modern Language Journal*. 1:52-59. November, 1916.

Reports an experiment in composition work in first- and second-year French and first-year German in the University of Wisconsin High School. Extra assignments were always available for the abler pupils.

DRAKE, E. H. "An interesting experiment." *Elementary School Journal*. 15:219-222. December, 1914.

The grade teachers of the Elkhart, Indiana, public schools, purposing to provide a system to meet the different abilities of different children, tried out the plan of minimal-maximal assignments of lessons. The experiment seems to justify the conclusion that the advantages of the scheme outweigh the disadvantages.

DUDLEY, LOUISE. "The quartile system: A method of varying class-work in accordance with the student's ability." *Educational Administration and Supervision*. 10:462-470. October, 1924.

This system has been successfully used in Stephens College. Its advantages are that it can be used in classes of any size and of any grade and that it distinguishes between good and poor students both in the work assigned and in the credit given.

EASTMAN, GRACE. "Finding and helping to overcome individual difficulties." *Kansas Teacher*. 18:7-8. March, 1924.

An account of how one teacher discovers and takes care of the difficulties of each of her pupils. Illustrations taken from an arithmetic class.

ERSKINE, LUCILE, "Individual instruction *versus* class teaching." *School Review*. 14:635-640. November, 1906.

In the McKinley High School, St. Louis, Missouri, every other day the class devotes itself to silent written work. This so-called "laboratory" day offers an opportunity for individual pupil help. Individual instruction is advocated for three reasons: every-day feasibility, pedagogic economy, and close correlation to the elective system.

EVANS, O. D. "Individual work as the ideal for the continuation school." *Tenth Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1923. pp. 274-276. (University of Pennsylvania Bulletin. Vol. 23, No. 38. June 9, 1923.)

Individual instruction may be provided in the continuation school by assignments suited to each individual pupil, by properly trained teachers, and by suitable teaching conditions.

FOSTER, H. H. "Individual instruction." (In his *Principles of Teaching in Secondary Education*. New York, Charles Scribner's Sons, 1921. pp. 309-319.)

A discussion of the general principles which should govern in individual instruction and some of the specific forms of such instruction.

FREELAND, G. E. "Methods of adjusting school work to individual needs." (In his *Modern Elementary School Practice*. New York, The Macmillan Company, 1919. pp. 341-367.)

Suggests the following methods: (1) the study of individuals, (2) individualizing recitations, (3) flexible assignments, (4) flexible classification and formation of special classes.

GOLDSTONE, G. A. "Differentiation of method in teaching reading to slow and bright pupils." *Bulletin of High Points*. 5:11-14. April, 1923.

The methods used are illustrated by definite examples.

HOFFMAN, U. J. *Organizing and Conducting a One-Teacher School*. Springfield, Ill., State Department of Public Instruction, 1923. 63 pp. (Circular No. 180.)

This monograph attempts to show that all necessary class instruction and all needed individual instruction can be given if a school is properly organized and conducted. Conditions must be "favorable for effective teaching by the teacher and effective study by the pupil."

HOLMES, HILDA. "The motivation of primary work." *Elementary School Journal*. 20:767-771. June, 1920.

An account of an experiment at the San Francisco State Normal School, in which each child had absolute free choice of work. The teachers set the stage for the motivation; the child supplied the motives.

HOLMES, W. H. "Plans of classification in the public schools." *Pedagogical Seminary*. 18:475-522. December, 1911.

Three plans of individual instruction, Pueblo, Batavia, and Newton, together with other prominent plans of grading and instruction, are described.

HOLMES, W. H. *School Organization and the Individual Child*. Worcester, Mass., The Davis Press, 1912. 408 pp.

The first part of the book presents the fundamental principles of the various plans of grading, classification, and instruction that have been worked out to adjust the schools better to the needs of individual pupils. The second part deals with the treatment of abnormal children in the public schools. A comprehensive bibliography is appended.

HORN, ERNEST. *Distribution of Opportunity for Participation Among the Various Pupils in Classroom Recitations*. New York, Teachers College, Columbia University, 1914. 40 pp. (Teachers College, Columbia University. Contributions to Education, No. 67.)

The purpose of this study is to supply data with regard to the nature of the practice in meeting the difficulty of reaching individual children.

HOWARTH, JANE. *A Study of Individual Variation in Language Ability in a Fifth Grade of Forty Children*. Thesis (M. A.) State University of Iowa.

Summarized in this *Yearbook* by Dr. Ernest Horn.

HUGHES, W. H. "Providing for individual differences with respect to instruction, scope of work, and credit." *Educational Administration and Supervision*. 5:343-356. October, 1919.

An account of the credit system which is used in the Riverview Union High School, Antioch, California. This method of weighted credit and credit for quality recognizes varying degrees of achievement and assigns credit in proportion to this achievement.

HUGHES, W. H. "Provisions for individual differences in high-school organization and administration." *Journal of Educational Research*. 5:62-71. January, 1922.

Data obtained from a questionnaire addressed to 425 high schools. It is evident that not sufficient attention is being paid to this problem.

Individual Child in the Schools, The. Mount Vernon, N. Y., Department of Public Instruction, 1922. 95 pp.

This annual report of the public schools of Mount Vernon, N. Y., centers about the procedure which has been adopted toward the individual child. It contains a number of definite reports on individual instruction.

"Individual instruction in the Eaton Rapids schools." *Moderator-Topics*. 44:396. February 28, 1924.

A brief account of the introduction of individual instruction in this Michigan city.

"Individual work." *Teachers World, London*.

For several years this weekly periodical has been devoting one or more pages to the methods to be used in this line of work.

IRWIN, E. A. AND MARKS, L. A. *Fitting the School to the Child; an Experiment in Public Education*. New York, The Macmillan Company, 1924. 339 pp.

The experiment was conducted in Public School 64, New York City. An effort was made to adapt educational experiences to individual needs by first finding out by accurate measurement, the mental and physical capacities of the children as they entered school. An account is given of the methods used in classification and analysis, and the types of treatment used with varying groups are discussed.

KENNEDY, JOHN. "The Batavia plan after fourteen years of trial." *Elementary School Teacher*. 12:449-459. June, 1912.

Since the plan has furnished one solution for the problem of individualizing instruction, has stood the test of time, and has been constantly applauded, its founder is still confident of its excellence.

KENNEDY, JOHN. *The Batavia System of Individual Instruction*. Syracuse, N. Y., C. W. Bardeen, 1914. 299 pp.

Discusses various aspects of the system and gives an account of the reason for its continuance. The book is a description and something of an argument in favor of this sort of organization.

KENNEDY, JOHN. "The need of individual instruction." (In National Education Association. *Addresses and Proceedings, 1901*. pp. 295-303.)

Individual instruction in the Batavia, N. Y., schools supplements the class recitation. This type of instruction is given by an extra teacher in the case of large classes and by the regular teacher in case of small.

KENNEDY, JOHN. "The uplift of individual instruction." *Ungraded*. 4:184-190. May, 1919.

LING, E. S. "Individualized instruction in Abington Township." *Eleventh Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1924. pp. 206-210. (University of Pennsylvania Bulletin. Vol. 24, No. 38. June 7, 1924.)

"Describes system in use in Abington Township and presents several case studies. Only provides individual work for 'those who need it most'."

MACKINDER, JESSIE. *Individual Work in Infants Schools*. London, Educational Publishing Company, 1923. 100 pp.

"Miss Mackinder has worked out an ingenious series of devices for pupil self-instruction in the primary grades. The book is very readable, highly suggestive, and probably the best contribution toward individualizing the primary grades that has yet been made."

McMANIS, J. T. "Individual differences in the early grades." *School and Society*. 3:289-295. February 26, 1916.

Since individual differences are more marked in pupils in the primary grades than in the upper, schools should adapt either the kindergarten idea or departmental work to the needs of these children.

MAGUIRE, M. T. "Each child in school must be taught as an individual." *Journal of Education*. 73:595-597. June 1, 1911.

MARK, H. T. *Individuality and the Moral Aim in American Education*. London, Longmans, Green and Company, 1901. 298 pp.

Contains a very good general discussion of American practices as the author found them at the time of his visit to the United States.

MAYBERRY, L. W. "Individualizing problems for pupils." *Elementary School Journal*. 18:133-137. October, 1917.

An experiment in which a system of checking-up the individual achievement of each pupil on facts presented for drill secured telling results. The method is explained and illustrated.

MORRIS, W. C. "The individual and our educational system." *School and Society*. 2:554-557. October 16, 1915.

A plea that the individual pupil may come into his full rights in our schools.

NEWCOMB, R. S. "Securing the maximum amount of work from every pupil." *Elementary School Journal*. 25:376-379. January, 1925.

Describes a six weeks' experiment in the Training School of the East Central State Teachers College at Ada, Oklahoma. The seventh- and eighth-grade arithmetic classes were given definite assignments in a regular text and optional assignments in a supplementary text in order to determine the amount of extra work which pupils would accomplish if opportunity were offered. Standard tests given before and after the experiment proved the value of this type of assignment for pupils of every range of ability.

NORVELLE, L. R. "Consideration of individual differences in classroom instruction in beginning courses." *Quarterly Journal of Speech Education*. 8:53-60. February, 1922.

PARKER, S. C. "Adapting class instruction to differences in capacity." (In his *General Methods of Teaching in Elementary Schools*. Boston, Ginn and Company, 1919. pp. 269-325.)

Makes clear how class instruction may be adapted to individuals of different capacity by suggesting and giving examples of the proper school treatment of these types.

PARKER, S. C. "Adapting class instruction to differences in capacity." (In his *Methods of Teaching in High Schools*. Boston, Ginn and Company, 1922. pp. 362-390.)

Discusses the Pueblo plan, the sectioning of classes according to ability of pupil, the providing of special supplementary assignments for the fast pupils, and the Batavia plan. With this reference consult also the author's *Exercises*, pp. E190-197.

PARKER, S. C. "Adapting instruction to differences in capacity." *Elementary School Journal*. 25:20-30. September, 1924.

First interprets and describes with practical examples, seven types of differentiated teaching, then proceeds to discuss the history and theory of group instruction *versus* individual instruction. Concludes that, ideally, provision for both is necessary and that it should be proved by scientific studies and factual investigations.

PARKHURST, HELEN. See Section B of this part of the bibliography.

PARKINSON, W. D. "Individuality and social adjustment as means and ends in education." *Education*. 29:16-24, 104-112. September and October, 1908.

Approves of a combination of individual and class instruction and of a system of grading which is so flexible that readjustments may be made whenever logical.

PERKINS, E. V. "The individual pupil." *Journal of Education*. 83:234-235. March 2, 1916.

Urges that in all teaching the individual pupil should be the pivot about which instruction and management move.

PIERCE, B. L. "An experiment in individual instruction in history." *Historical Outlook*. 10:86-87. February, 1919.

The experiment was conducted in the University High School at Iowa City and the method used is concisely described. Results seem to justify individual instruction in preference to class.

PRATT, CAROLINE, ed. *Experimental Practice in the City and Country School*. New York, E. P. Dutton and Company, 1924. 302 pp.

A description of the practices and methods used in this experimental school. There are helpful suggestions for those who are interested in understanding child nature and in organizing schools to function more naturally.

RICHARDS, A. A. "The motivation of the professional course in the normal school." *School and Society*. 11:732-737. June 19, 1920.

Describes an experiment in which prospective teachers were stimulated with a permanent and productive interest in the individual differences of children and their proper treatment.

RICHARDS, A. A. "The psychology of superior children." *Pedagogical Seminary*. 31:209-246. September, 1924.

A study based chiefly on the progress rates of 175 children in the training department of the State Teachers College at San Francisco and on special case studies of 66 superior children of the same school.

RICHARDS, A. A. "Spelling and the individual system." *School and Society*. 10:647-650. November 29, 1919.

The plan was worked out in the San Francisco State Normal School and is possible in the ordinary schoolroom without any unusual mechanism. It entailed a grading of the children, the compilation of individual lists, and a method of individual instruction.

RINGER, EDITH. "An experiment in child-directed education." *Journal of Educational Method*. 2:186-193. January, 1923.

Details are given as to the system used in the Training School of the University of Southern California. In many ways it is similar to that of Dr. Burk. Miss Ringer was formerly a member of Burk's faculty.

ROSIER, JOSEPH. "The graded school; its strength and its weakness." *Review of Education*, 7:175-177. December, 1901.

While an ardent advocate of greater provision for individual growth and personal effort, the author believes that class instruction properly conducted will provide for it.

ROWLAND, S. V. "Individualized instruction in Radnor Township." *Eleventh Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1924. pp. 210-217. (University of Pennsylvania Bulletin. Vol. 24, No. 38. June 7, 1924.)

"Devices permitting more individualized instruction are grouped under three heads: (1) grading and classification to permit more individual attention and more homogeneous grouping; (2) program provisions definitely made for individual instruction, and (3) provision in method for individual instruction.' 'In a regular graded school organization much individual work is being done, and teachers and principals are putting forth efforts to make it worth while from the standpoint of the child.'"

SAMUELS, A. A. *An About-Face in Education*. San Francisco, Harr Wagner Publishing Company, 1924. 260 pp.

An interesting experiment has been carried on for the past two years at the Cucamonga, California, State Demonstration School. The book describes the educational theory and practice upon which the school is based. All activity centers about the individual child and his needs.

SANFORD, M. B. "Maximum and minimum lesson assignments." *English Leaflet*. 22:9-12. December, 1923.

The author has found this scheme to work very satisfactorily in her English classes in the Holyoke, Massachusetts, High School. Each pupil does his best.

SCHLOCKOW, OSWALD. "Individual *versus* class instruction." *New York Teachers' Monographs*. 3:1-6. December, 1900.

While the author argues in favor of the superiority of class instruction, he believes that a combination of both systems has advantages.

"A school program framed in terms of children's needs." *Lincoln, Nebr., School Bulletin*. 4:1, 2, 3. February 25, 1924.

The article consists of concise statements as to the former and present practices of dealing with individual differences.

SCHORLING, RALEIGH. "The problem of individual differences in the teaching of secondary-school mathematics." *School Review*. 23:535-549, 649-664. October and December, 1915.

A study based on the results of a questionnaire sent to institutions offering practice-teaching courses. The article presents a list of current practices as revealed by the responses, studies the validity of these practices, and discusses in detail the proper technique involved in dealing with the slow and fast student.

SEARCH, P. W. *An Ideal School*. New York, D. Appleton and Company, 1901. 357 pp.

One of the best discussions of the Pueblo plan which is the exponent of an almost pure type of individual instruction.

SEARCH, P. W. "Individual teaching: the Pueblo plan." *Educational Review*. 7:154-170. February, 1894.

A detailed description of the principles, methods, and results of the work in the Pueblo industrial public schools of Pueblo, Colorado. The fundamental characteristic of the plan is its conservation of the individual.

SEARCH, P. W. "Individualism in mass education." (In National Education Association. *Addresses and Proceedings, 1895*. pp. 398-411.)

Points out the defects of the graded school system and the superiority of the school of individualism. A general discussion of the paper follows.

SEARCH, P. W. "The Pueblo plan of individual teaching." *Educational Review*. 8:84-85. June, 1894.

Supplements the author's article of February, 1894.

SHAW, L. A. "An experiment in the supervision of handwriting." *Detroit Journal of Education*. 2:57-59. February, 1922.

The outcomes of the experiment were that supervision pays and that it is most effective when directed to those in special need of assistance.

SIDERS, W. R. "In class instruction, how can the individual be reached?" (In National Education Association. *Addresses and Proceedings, 1909.* pp. 175-182.)

Advocates a judicious use of whole-class, group and individual instruction, the plan in use in the Pocatello, Idaho, schools. Reviews several other plans.

SMITH, J. H. "Individual variations in arithmetic." *Elementary School Journal.* 17:195-200. November, 1916.

A study of three types of drill work which showed that the type which supplemented class drill by individual help at the points of weakness as diagnosed by tests, proved the most efficient.

SMITH, M. H. "Finding the individual." (In National Education Association. Department of Elementary School Principals. *First Yearbook, 1922.* pp. 64-69.)

A very careful and comprehensive description of the Sutherland method of individual education as worked out and used in the Los Angeles city schools.

SMITH, N. B. "Experiment to determine the effectiveness of practice test flash cards in primary arithmetic." *Detroit Journal of Education.* 3:377-379. April, 1923.

Describes an experiment whose basic aims were to provide each pupil with a double motive for participating in the drill, to teach him the procedure necessary for working independently, and to allow individual progression and simultaneous participation in drill.

SMITH, N. B. "Experiment to determine the effectiveness of the Detroit standard practice tests in reading." *Detroit Journal of Education.* 2:48-52. June, 1922.

Proves that the purposeful self-teaching method of reading is more effective than the traditional system. Each child progressed according to his individual ability and purpose, kept his individual record of advancement and appraised his own results.

SNYDER, MORTON. "The individual pupil as the unit of supervision in high schools." *School Review.* 28:205-219. March, 1920.

Big business ideas have dominated our schools too long; attention must again be concentrated on the individual pupil. Schools must be so administered that each pupil may become his best. Helpful measures are suggested.

SPAULDING, F. E. "Unassigned teacher in the schools." *School Review.* 15:201-216. March, 1907.

Describes the position of the unassigned teacher and the meaning and significance of her work as practiced in the Newton, Massachusetts, schools.

STARCH, DANIEL. "Variation in human capacities." (In his *Educational Psychology*. New York, The Macmillan Company, 1919. pp. 26-48.)

Shows clearly their extent and nature, how they may be measured and represented, and how schools have made provision for them.

STODDARD, A. J. "Pupil progress by the individual method." (In National Education Association. *Addresses and Proceedings, 1923*. p. 996.)

Very interesting results are being secured in those schools which are attempting to develop each child to the limit of his native ability, by means of instructing him as an individual.

STORMZAND, M. J. "The trend toward individual instruction in the public schools." (In his *Progressive Methods of Teaching*. Boston, Houghton Mifflin Company, 1924. pp. 351-363.)

Points out that much of the individual instruction trend is an incidental by-product of movements whose aims were to meet other needs.

STRUTHERS, A. B. "Some adjustments to varying needs of pupils in junior-high-school administration." (In California High School Teachers' Association. Committee of Fifteen. *Report on Secondary Education in California, 1923*. San Francisco, The Association, 1924. pp. 128-176.)

"Presents simple, concrete material and examples of how solutions have been attempted" in the McKinley Junior High School, Los Angeles.

SUTHERLAND, A. H. "Correcting school disabilities in reading." *Elementary School Journal*. 23:37-42. September, 1922.

In the Los Angeles adjustment rooms, backward children were taught reading by differentiating it into thirteen types and by placing each child in the appropriate type. Practice exercises and tests were used to facilitate the acquiring of correct reading attitudes, a record of which was kept by the child on an adjustment progress card. The experiment is now being tried in regular classes.

SUTHERLAND, A. H. *Handbook for Teachers of Adjustment Rooms*. Los Angeles, Calif., Department of Psychology and Educational Research, Los Angeles City Schools, 1922. 47 pp.

Although this booklet is devised for the use of teachers of dull, normal, and superbright children to enable them to catch up with their mental peers, the question is pertinently raised whether the same methods of specifically directed education might not well be adopted as the regular school procedure.

SUTHERLAND, A. H. "Methods of individual instruction in the adjustment rooms of Los Angeles." (In Terman, L. M. and others. *Intelligence Tests and School Reorganization*. Yonkers-on-Hudson, N. Y., World Book Company, 1923. pp. 53-72.)

The curriculum is studied from the standpoint of the individual child, with special application to the adjustment rooms of Los Angeles.

SWIFT, E. J. *Mind in the Making*. New York, Charles Scribner's Sons, 1908. pp. 253-255.

Other experiments with the Pueblo plan have brought favorable results.

THEISEN, W. W. "Provisions for individual differences in the teaching of reading." *Journal of Educational Research*. 2:560-571. September, 1920.

A discussion of a study based on letters from some of the best teachers of reading. Tables I and V suggest a variety of measures for meeting individual differences.

UHL, W. L. "Use of standardized materials in arithmetic for diagnosing pupil's methods of work." *Elementary School Journal*. 18:215-218. November, 1917.

Through the use of such materials teachers are enabled to deal directly with the precise form of the mechanics of arithmetic of which the individual child has need.

WASHBURNE, C. W. "Breaking the lock-step in our schools." *School and Society*. 8:391-402. October 5, 1918.

Treats of the meaning of, and need for, individual instruction, the plans that have been tried, and the administrative problems which have to be met.

WASHBURNE, C. W. See Section D of this part of the bibliography.

WETZEL, W. A. "The old and the new systems of education: a contrast." *Education*. 33:503-512. April, 1913.

Pleads for more individual instruction and courses of study so organized and taught that the school of the city boy may assume the functions of the school, the home, and the neighborhood of the country boy.

"What the Batavia system is." *Journal of Education*. 99:50. January 10, 1924.

John Kennedy is quoted as saying that the Batavia system is not a method of individual instruction, but a remedial agency.

WILLING, M. H. "The encouragement of individual instruction by means of standardized tests." *Journal of Educational Research*. 1:193-198. March, 1920.

Standardized tests are helpful in encouraging individual instruction by furnishing evidence of the presence and extent of individual differences, by defining the exact nature of the differences, and by permitting the establishment of standards for individual accomplishment.

YOUNG, J. W. A. "The individual mode." (In his *The Teaching of Mathematics in the Elementary and Secondary School*. New York, Longmans, Green and Company, 1907. pp. 81-86.)

Offers a mode for meeting individual differences. The discussions and experiments are worthy of study.

ZIRBES, LAURA. "Diagnostic measurement as a basis for procedure." *Elementary School Journal*. 18:505-522. March, 1918.

A report of an experiment to improve reading by individual instruction. The procedure was initiated by the use of standard tests and scales, followed by individual remedial lessons. Graphic records of actual measurements of improvement are included.

B. THE DALTON PLAN

BASSETT, ROSA. *Dalton Plan Assignments*. London, G. Bell and Sons, 1922. 2 Vols.

"The first volume deals with English, geography, and history, the second volume with mathematics and science. In both volumes a complete syllabus is given with assignments and tests."

BELL, G. F. "The Dalton method." *The School, Toronto*. 12:40-42. September, 1923.

Describes an experiment with the Dalton plan in the lower forms at Upper Canada College. Typical assignments are included.

COLE, P. R. "An elementary school on the Dalton plan." *Schooling, Sydney, N. S. W.* 6:170-176. August, 1923.

A description of the Dalton plan in operation at West Green School, Tottenham, in the north of London. Detailed assignment in geography is included.

COOK, E. J. "The Dalton plan for younger children." *Teachers World, London*. 32:12, 134, 226, 346, 440, 557, 636. October 1, 15, 29; November 12, 26; December 10, 24, 1924.

A series of articles showing how the author adapted the Dalton plan to children below the fourth grade. Her recommendations are based on experiments conducted in her own school.

COOK, E. J. "The sub-Dalton plan." *Times (London) Educational Supplement*. No. 447, p. 499. November 10, 1923.

An account of the working of the Dalton plan as applied to younger children than the plan usually includes. The experiment was tried out in the St. Martin's Girls' School, Dover, England.

CORSON, H. K. "The Dalton plan." *Popular Educator*. 41:430-431. April, 1924.

The way the plan operates in the Dalton, Massachusetts, High School.

CUMBERBIRCH, C. T. "The Dalton plan." *Journal of Education and School World, London*. 54:709-711. November, 1922.

Asserts that the Dalton plan was introduced into England at the psychological moment, *i. e.*, when the teachers were weary of the weaknesses of class teaching and were seeking some remedy. Gives a detailed account of how the city of Hull adapted the new plan to meet its own needs.

"The Dalton plan in primary schools." *Times (London) Educational Supplement*. No. 465, p. 116. March 15, 1924.

Brief report of the addresses given in connection with the Conference on the Dalton plan in the elementary school.

DEAN, N. G. "The teaching of English under the Dalton plan." *New Era*. 4:159-164. April, 1923.

As English is taught in the Leeds Kirkstall Road School, with specimen assignments.

DEWEY, EVELYN. *The Dalton Laboratory Plan*. New York, E. P. Dutton and Company, 1922. 173 pp.

This plan attempts to provide proper instruction for each individual pupil, beginning with the fourth grade and extending through the high school. The author describes in great detail the experiment as tried in the high school at Dalton, Massachusetts, in the Streatham County Secondary School, England, and in the Children's University School, New York City.

DIELS, P. A. "Dutch view of the Dalton plan." *School Life*. 9:198. May, 1924.

A Dutch delegation sent to England to study the practical working of the Dalton schools, make a report favoring the introduction of the plan in Holland.

DOUGLAS, LUCILE. "Teaching English on the Dalton plan." *English Journal*. 13:335-340. May, 1924.

Explains how English literature and composition may be taught successfully by this method. Considerable attention is paid to the plan itself.

EADES, JOHN. "The Dalton plan." *New Era*. 4:222-224. October, 1923.

An explanation of the Dalton plan, stating its fundamental principles, how it is administered, and its advantages.

EADES, JOHN. "The Leeds Dalton plan." *Progressive Education*. 1:21-23. April, 1924.

An account of how the Dalton plan has been adjusted to an English elementary school.

FROST, STANLEY. "A school where they hate to quit." *Collier's*. 71:5-6. February 3, 1923.

A popular type of article on the Dalton plan as it is carried out in the Dalton, Massachusetts, High School.

HARVEY, M. G. "The Dalton laboratory plan in English literature." *The School, Toronto*. 12:104-108. October, 1923.

An experiment in teaching English literature, with a three weeks' assignment on Cowper's poems included, showing variations for pupils of different abilities. Although it was first planned to have one conference or lecture lesson to every three laboratory periods, more meetings were found advisable, since reading aloud assisted in interpretation.

JACKMAN, ERNEST. "The Dalton high school." *Progressive Education*. 1:19-20. April, 1924.

Answers four questions as to whether certain assumed essentials are acquired along with the advantages of this mode of administration. The Dalton High School is the touchstone.

JACKMAN, ERNEST. "The Dalton plan." *School Review*. 28:688-696. November, 1920.

The distinctive features which characterize the Dalton plan as it operates in the Dalton, Massachusetts, High School are: (1) monthly assignments, (2) freedom of study, (3) freedom of progress, (4) individual instruction, and (5) group creativeness. The article describes each of these features.

KIMMINS, C. W. "The Dalton plan." *Journal of Education and School World, London*. 55:91-93. February, 1923.

A clear and concise statement of the claims made for the Dalton plan. Emphasis is placed on (1) the working of the plan, (2) the position of the teacher under this plan, (3) subnormal and supernormal children, and (4) the advantages of the plan.

LIMA, AGNES DE. "The Dalton plan." *New Republic*. 37:308-309. February 13, 1924.

The distinctive features of the plan are explained for the general reader. States that the plan has been adopted in many countries.

LYNCH, A. J. "Arithmetic under the Dalton plan." *New Era*. 4:189-192. July, 1923.

Description of an actual experiment.

LYNCH, A. J. *Individual Work and the Dalton Plan*. London, George Philip and Son, 1924. 264 pp.

"Gives a complete description of the working of the Dalton plan of individual work in a primary school."

MARSHALL, F. M. "The Dalton plan at Manhattan trade school for girls." *Journal of Education*. 99:608-609. May 29, 1924.

The introduction of the Dalton plan into the trade school has met with the approval of the principal, the teachers, and the girls. Points out what adjustments were necessary and their effect on the students.

MASSON, T. L. "Teaching children to teach themselves." *World's Work*. 44:410-414. August, 1922.

An informal exposition of the Dalton laboratory plan.

O'SHEA, M. V. "Educational pioneering." *Saturday Evening Post*. 195:69. January 20, 1923.

Predicts that the Dalton laboratory plan will be thoroughly tried out and, if it stands the tests, will be adopted in so far as it is found practicable.

"Over-age pupils at Waring try the Dalton plan." *School Topics*. 6:1,4. November 15, 1923.

In the Waring School of Cleveland, Ohio, the Dalton plan is being employed in over-age classes. Four subjects only are taught. Each pupil keeps his own graph to show his accomplishments. A laboratory period of unsupervised study is followed by recitation periods. Tests in all subjects are given weekly.

PARKHURST, HELEN. "The children's university school." *School and Home*. 7:17-24. January, 1924.

Explains how work is accomplished in the school where the Dalton plan originated. It is a new way of school living.

PARKHURST, HELEN. "The Dalton laboratory plan." *Journal of Education and School World*, London. 53:694-696. November, 1921.

This article discusses the plan under the following captions: the principles of the plan; the plan itself; organization of the work; the timetable; interaction of groups; and the assignment.

PARKHURST, HELEN. "The Dalton laboratory plan." *Progressive Education*. 1:14-18. April, 1924.

A clear and interesting presentation of this plan.

PARKHURST, HELEN. "The Dalton laboratory plan." *Journal of Education and School World, London*. 53:694-696. November, 1921.

The Dalton plan demands that the instructors shall outline the work of the year (the curriculum of projects), so that each pupil may know and understand the scope and nature of the work that he is expected to accomplish.

PARKHURST, HELEN. "The Dalton plan." *Times (London) Educational Supplement*. 11:297-298, 315-316, 321-322, 333-334, 347, 357-358. July 2, 9, 16, 23, 30, and August 6, 1921.

A series of six articles in which the Dalton laboratory plan is described. A brief history of this scheme is included.

PARKHURST, HELEN. *Education on the Dalton Plan*. New York, E. P. Dutton and Company, 1922. 278 pp.

The plan is explained with careful detail by its founder. She includes a concrete example of the plan in practice and sample assignments, together with a graph method of recording progress. The best account of the subject which has yet appeared.

PROUTY, C. E. "The Dalton laboratory plan." *Boston Teachers News Letter*. 12:24-26. January, 1924; 12:12-16, 25, 27, 29. March, 1924.

A description of the main features of the Dalton plan, followed by an account of how it was adapted to an eighth-grade class in English in the Samuel Adams School, Boston.

PROUTY, C. E. "An experiment in the use of the Dalton laboratory plan." *Elementary School Journal*. 24:599-607, 679-691. April and May, 1924.

This article is quite similar to the preceding one.

RADCLIFFE, J. A. "Classroom organization; the Dalton plan and competition." *Educational Times, London*. n. s. 5:192-193. May, 1923.

An organization which divides a class both horizontally and vertically in order to stimulate competition while taking care of the individual.

RIBLET, M. V. "A modified Dalton plan." *Bulletin of the New York Society for the Experimental Study of Education*. 6:1-2. December, 1924.

In the Bryant High School of New York City, the Dalton plan was modified for use with the lowest third in 9A. Results have justified the procedure.

ROSE, KATE. "The Dalton plan." *Teachers World, London.* 28:431, 439. November 22, 1922.

Describes how the plan was successfully operated in a school which had no special subject rooms, specialist teachers, or large supplies of books.

STENT, E. C. "Schoolcraft." *Education Outlook, London.* 76:147-148. April, 1924.

An interesting description of how French may be taught according to the Dalton plan.

STOKES, R. M. "The pursuit of knowledge under the Dalton plan." *Emerson Quarterly.* 4:17-18. March, 1924.

A description of this plan by an instructor in English in the Dalton, Massachusetts, High School.

TAYLOR, J. S. "An experiment with the Dalton plan." *Bulletin of High Points.* 6:24-28. October, 1924.

This interesting experiment was conducted by the English Department of the Girls Commercial High School in Brooklyn. Shows how one subject may be 'near-Daltonized' while the rest of the courses go on in regular fashion.

UNDERHILL, R. I. "The Scarsdale application of the Dalton plan of individual instruction." *School Review.* 33:48-56. January, 1925.

An excellent description of the way the Dalton plan was introduced into the schools of Scarsdale, New York, and of what modifications were necessary to meet the problems which arose. The ensuing beneficial results commend the plan.

WASHBURNE, C. W. *Progressive Tendencies in European Education.* Washington, Government Printing Office, 1923. pp. 13-19. (U. S. Bureau of Education. Bulletin, 1923, No. 37.)

Describes the Dalton plan, the Bedales plan, and the Mackinder methods of individual instruction.

WOLSTENCROFT, H. P. "The Dalton plan; a record of a year's experience in an English school. *Educational Times, London.* n. s. 3:461-462. October, 1921.

"Says that the plan has the advantage of being applicable to any curriculum and that it has resulted in better work, greater progress, increased interest, fuller scope, and the growth of self-reliance and a feeling of responsibility among the pupils."

C. THE DECROLY METHOD ²

DALHEM, LOUIS. *Contribution de l'Introduction de la Methode Decroly a l'Ecole Primaire*. Brussels, Belgium, Maurice Lamertin.

DECROLY, OVIDE AND MONCHAMP, MLLE. *L'Initiation à l'Activité par les Jeux Educatifs*. Neuchatel, Switzerland, Delachaux and Niestle, 1922. 152 pp.

DECROLY, OVIDE. "Methods of individual instruction and educational games." *Progressive Education*. 1:24-28. April, 1924.

Several types of individual instruction are discussed, followed by a more elaborate account of the kinds of educational games which have been used "to supply each child with material that will interest him, and instruct him, cause him to concentrate his attention, to reason, and to act by utilizing his play impulse."

DECROLY, OVIDE AND BOON, G. *Vers l'Ecole Renovee*. Brussels, Belgium, Office de Publicite.

DESCHAMP, JEANNE. *L'Auto-Education a l'Ecole*. Brussels, Belgium, Maurice Lamertin. (In preparation.)

HAMAIDE, AMELIE. "The Decroly method." *Progressive Education*. 1:29-32. April, 1924.

Presents the formulae of educational truth which led Dr. Decroly to inaugurate a method of individual instruction. This method is described distinctly and intelligibly by his collaborator.

HAMAIDE, AMELIE. *La Méthode Decroly*. Neuchatel, Switzerland, Delachaux and Niestle, 1922. 208 pp.

"Outlines the history of Decroly's work, and discuss the principles underlying his scheme for a more effective type of education in the elementary schools."

This book has been translated into English by J. L. Hunt. It is published by E. P. Dutton and Company of New York under the title *The Decroly Class*. It contains 318 pages.

HUNT, J. L. "Individual progress in the Decroly school." *Progressive Education*. 1:33-34. April, 1924.

"The more important provisions for individual progress concern the enrichment of individual experience under the conditions offered by a flexible curriculum, a socialized environment, and a program of subject matter based on fundamental interests of childhood."

² Certain citations in this section are regrettably incomplete since adequate bibliographical sources were not available to the compiler.

WASHBURN, C. W. *Progressive Tendencies in European Education*. Washington, Government Printing Office, 1923. pp. 19-20. (U. S. Bureau of Education. Bulletin, 1923, No. 37.)

Decroly's method may be described as a whole class group working together coöperatively. Pupil lectures and reports constitute an important feature.

D. THE WINNETKA PLAN

ALSHOUSE, H. S. "Individualization of instruction." *Eighth Annual Schoolmen's Week Proceedings*. Philadelphia, Press of the University of Pennsylvania, 1921. pp. 235-237. (University of Pennsylvania Bulletin. Vol. 21, No. 37. June 18, 1921.)

A detailed report of a successful experiment in adapting the Winnetka system of individual instruction to the teaching of arithmetic in Grades IV-VIII of the Williamsburg, Pennsylvania, schools.

BEATTY, W. W. "Individual instruction in the Winnetka Public Schools." *Eleventh Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1924. pp. 194-200. (University of Pennsylvania Bulletin. Vol. 24, No. 38. June 7, 1924.)

"Describes the Winnetka technique in clear, conversational language. Points out the fact that social discussions and group activities occupy an important place in the Winnetka plan. States that old grade promotion must go, content of courses is going to be more accurately defined, thoroughness of children's work is going to be more objectively measured, and an entirely new race of textbooks is going to be developed. 'These things we believe are coming as inevitably as tomorrow's dawn.'"

CARSWELL, MARION and BEATTY W. W. "Reading and language in the Winnetka public schools." (In National Education Association. Department of Elementary School Principals. *Second Yearbook*. pp. 313-329. Bulletin, Vol. 2, No. 4. July, 1923.)

A description of the individual system of teaching reading and language.

GARVER, F. M. "The values and the limitations of individualized instruction." *Eleventh Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1924. pp. 200-206. (University of Pennsylvania Bulletin. Vol. 24, No. 38. June 7, 1924.)

"A critical analysis of the Winnetka plan, pointing out both its dangers and its value. 'The fact that the Winnetka plan has been in operation in a public school system for a number of years and that the school

officials, teachers, and citizens are well satisfied that it works effectively is of tremendous significance for public education.' 'Its two chief defects, first, that of not allowing for sufficient individual motivation in the acquisition of the essential skills in the so-called tool subjects, and second, of not being efficiently applicable to the study of the social subjects, should be corrected.'"

HORN, J. L. "The individual system." (In his *The American Elementary School*. New York, The Century Company, 1923. p. 254.)

A very brief description of the systems in operation in the San Francisco State Teachers College and in the city schools of Winnetka, Illinois.

MOHR, LOUISE AND WASHBURNE, C. W. "The Winnetka social-science investigation." *Elementary School Journal*. 23:267-275; 489-491; 646-647. December, 1922, May and March, 1923.

The social-science teachers of the school formed a seminar group to find out by statistical study just what items in history and geography should be known. The courses of study and tests, based on this research, are scientifically fitted to the children who use them. Dr. W. S. Monroe asks: "What are scientific methods?" The authors reply.

PENDLETON, CHARLES AND WASHBURNE, C. W. "The fact basis of a history, geography, and civics curriculum." *Journal of Educational Research*. 8:233-238. October, 1923.

A brief article on the method used by the Winnetka research group to determine what essential facts should be taught in history, geography, and civics.

REESE, M. M. "The study of mathematics under the individual system." *Mathematics Teacher*. 15:460-466. December, 1922.

An account of what is studied in each grade, together with the method of individual work. For coöperative work. the pupils carry on the business of the Skokie Finance Corporation.

VOGEL, MABEL, JAYCOX, EMMA, and WASHBURNE, C. W. "A basic list of phonics for Grades I and II." *Elementary School Journal*. 23:436-443. February, 1923.

A group of primary teachers in the Winnetka public schools made three separate studies to determine what phonograms should be taught in Grades I and II.

WASHBURNE, C. W. "The attainments of gifted children under individual instruction." *Twenty-Third Yearbook of this Society*. Bloomington, Ill., Public School Publishing Company, 1924. Part I, pp. 247-261.

This is a preliminary report of the investigation made under a subvention of the Commonwealth Fund. In form it is a statistical study of the effects of individual instruction as carried on in Winnetka.

WASHBURN, C. W. "Basic facts needed in history and geography: a statistical investigation." *Twenty-Second Yearbook of this Society*. Bloomington, Ill. Public School Publishing Company, 1923. Part II. pp. 216-233.

Describes how the Winnetka Social Science Seminar scientifically determined just what facts in history and geography were essential for pupils to know.

WASHBURN, C. W. "Building a fact course in history and geography." *Twenty-Second Yearbook of this Society*. Bloomington, Ill. Public School Publishing Company, 1923. Part II, pp. 99-110.

An account of how the Winnetka course was constructed, after the relative importance of persons, places, and events had been decided upon.

WASHBURN, C. W. *Common Science*. Yonkers-on-Hudson, N. Y., World Book Company, 1920. 390 pp.

A textbook whose subject matter was determined by a statistical study and arranged according to sound, psychological principles. The organization of each lesson is also commendable. After an extensive period of being tried out in mimeographed form, it was rewritten and published. Especially helpful in individual instruction.

WASHBURN, C. W. "A democratized school system." *American School Board Journal*. 62:42-43. March, 1921.

The Winnetka system secures democratization through (1) pupil self-government, (2) flexibility of program and method, (3) teacher participation in selecting textbooks and organizing courses of study, and (4) salary schedule committee of teachers.

WASHBURN, C. W. "Description of a unit of work as carried out in the Winnetka public schools, emphasizing individual responsibilities." *Journal of Rural Education*. 3:362-363. April, 1924.

Abstract of an address. Describes how each child learns by teaching himself.

WASHBURN, C. W. "Educational measurements as a key to individual instruction and promotions." *Journal of Educational Research*. 5:195-206. March, 1922.

One of the best accounts of the individual system used in the Winnetka, Illinois, schools.

WASHBURN, C. W. "Fitting the curriculum to individual children." *New Republic, Special Educational Section*. Vol. 40, Part 2. pp. 10-11. November 12, 1924.

In the Winnetka, Illinois, schools the curriculum provides for the individual differences of pupils (1) by requiring of each the mastery of certain essential knowledges and skills at his own rate of progress and (2) by providing for each child self-expression and the opportunity to contribute to the group something of his own special interests and abilities.

WASHBURNE, C. W. "Goal books in the Winnetka schools." *American School Board Journal*. 63:32. December, 1921.

"Goal books contain a definite outline of the exact units of work to be accomplished in each grade." When a goal is reached, an 'O. K.' is recorded opposite it. Parents examine the books monthly.

WASHBURNE, C. W. *Individual Arithmetics*. Yonkers-on-Hudson, N. Y., World Book Company. (In press.)

"These are self-instruction books in arithmetic, published for use in connection with the Winnetka plan of individualized work and following the general recommendations made in Section V of this *Yearbook*."

WASHBURNE, C. W. "Individual instruction in the Winnetka schools: answers to questions." *Chicago Schools Journal*, 3:271-275. March, 1923; also in *Detroit Journal of Education*. 3:53-56. October, 1922.

The essential features of this system are pointedly explained by means of the question and answer method.

WASHBURNE, C. W. *Individual Speller and Teacher's Manual*. Yonkers-on-Hudson, N. Y., World Book Company, 1924. 83 pp.

The word list which is used in the teaching of spelling in the Winnetka schools and the manual describing how it is done.

WASHBURNE, C. W. "The individual system in Winnetka." *Elementary School Journal*. 21:52-68. September, 1920.

This plan permits promotion by subject whenever a pupil has completed the work definitely assigned up to a particular goal. The work is measured by complete and diagnostic tests and consists mainly in the use of practice material. Sufficient social activities are offered to counteract the individual work. The results of the first year of operation were very satisfactory.

WASHBURNE, C. W. "Individualized instruction in public schools." *Normal Instructor and Primary Plans*. 30:19-20, 64-66. May, 1921.

States briefly the general principles underlying individual instruction and discusses extensively the individualization of reading and spelling in particular. The entire address may be found in the *Journal of the*

Sixty-Seventh Annual Meeting of the Illinois State Teachers Association, 1920, under the title "Can public schools be fitted to the individual pupil?"

WASHBURNE, C. W. "Merits of the individual plan of instruction." *School Life*. 9:179. April, 1924; also in *School Topics, Cleveland Ohio*. 6:1, 3. April 30, 1924; and in *Journal of Education*. 99: 314. March 20, 1924.

Abstract of address before the Educational Research Association, February 28, 1924. Briefly lists some of the questions which the Commonwealth Fund investigation will undertake to answer.

WASHBURNE, C. W. "Motives and goals in education." *Journal of Education*. 96:92-94. August 10, 1922.

Goals, to be effective, should be inherent in the work, definite, attractive, and near. In Winnetka, the course of study is re-phrased in terms of goals to be achieved in each subject.

WASHBURNE, C. W. "Should a school keep a child back? The new individual instruction as told to John Amid." *Collier's*. 72:11-12. November 24, 1923.

A popular account of the Winnetka plan, its origin, development, and present status. Written for fathers and mothers.

WASHBURNE, C. W. "A spelling curriculum based on research." *Elementary School Journal*. 23:751-762. June, 1923.

A study of the preparation of appropriate lists of words for Grades III to VI inclusive, two lists for each grade. The individual method of teaching these is fully described.

WASHBURNE, C. W. "Teaching in terms of the individual child." *Journal of Rural Education*. 3:206-213. January, 1924.

A description of various European schools in which methods of individual instruction are used.

WASHBURNE, C. W. "The Winnetka fact-course in social science." *Historical Outlook*. 25:362. November, 1924.

A communication in which the author answers certain questions which have been raised in regard to the Winnetka experiment.

WASHBURNE, C. W. "The Winnetka plan." *Educational Research Bulletin, Ohio State University*. 3:211-213. September 3, 1924.

A letter in which attention is called to the amount of socialized work done in Winnetka schools.

WASHBURNE, C. W. "The Winnetka plan of individual work." *Teachers World, London*. 28;612, 648. December 20 and 27, 1922.

A comparative study of the Dalton and Winnetka plans.

WASHBURNE, C. W. "The Winnetka system." *Progressive Education*. 1:11-13. April, 1924.

The three chief aspects of this system are to give each child complete development through a mastery of common essentials, the opportunity to do creative work, and the realization that he is a member of the social organism.

PART II. CLASSIFICATION, ABILITY GROUPING, AND
PROMOTION PLANS³

ODELL, C. W. *An Annotated Bibliography Dealing with the Classification and Instruction of Pupils to Provide for Individual Differences*. Urbana, Ill., University of Illinois, 1923. 50 pp. (University of Illinois Bulletin. Vol. 21, No. 12. November 19, 1923. Bureau of Educational Research, College of Education Bulletin, No. 16.)

The best and most complete bibliography which has yet appeared on the classification, promotion, and grouping of pupils to provide for individual differences. The following entries will supplement this bibliography and bring it up-to-date. None of its 346 titles will be duplicated.

ASHBAUGH, E. J. "Homogeneous or non-homogeneous grouping." *Journal of Educational Research*. 9:241-245. March, 1924.

An editorial in which the two types of grouping are discussed. The alleged undesirable features of ability grouping and the proposed remedy are carefully examined.

AUSTIN, C. M. "An experiment in testing and classifying pupils in beginning algebra." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1923. pp. 294-302. (University of Illinois Bulletin. Vol. 21, No. 25. February 18, 1924.)

An account of an experiment the purpose of which was to show if some relation could be discovered between general intelligence as revealed by the Otis test and school grades in algebra, and whether this test was a sound basis for classifying pupils for the study of algebra and other school subjects. There are six charts and considerable statistical data.

BALDWIN, B. T. "The grouping of pupils by abilities in elementary and high schools." *Tenth Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1923. pp. 50-62. (University of Pennsylvania Bulletin. Vol. 23, No. 38. June 9, 1923.)

Discusses the physiological, the mental, the pedagogical, and the social ages in relation to grouping of pupils in school. No scientific promotion plan can be developed without these fundamental groups of abilities being taken into consideration.

³In Part II none of the 346 titles given in the annotated bibliography by C. W. Odell will be duplicated. The reader should therefore combine the two bibliographies for a complete list.—*Editor*.

BEESON, M. F. and TOPE, R. E. "The educational and accomplishment quotients as an aid in the classification of pupils." *Journal of Educational Research*. 9:281-292. April, 1924.

In the intermediate and upper grades, pupils should be classified, promoted, or demoted on the basis of educational age, and classes should be sectioned according to the educational quotient. In the primary grades intelligence tests, together with the teacher's judgment, should be the basis of classification.

BLUMENTHAL, FRANCES. "A new method for approximating the homogeneous grouping of school children." *Educational Administration and Supervision*. 10:321-329. May, 1924.

A description of a new method of grouping, based on the quotients calculated from age-grade data.

BOWERS, E. V. "Reclassification to semiannual promotions." *Educational Research Bulletin, Ohio State University*. 3:82-84. February 20, 1924.

After a testing program had been put on at Tippecanoe City, Ohio, the pupils were reclassified. The article discusses the promotions which followed.

BOWERS, E. V. *Standardized Tests and Flexible Promotion in Tippecanoe City, Ohio*. 1922. Thesis (M.A.) Ohio State University. 84 typewritten pages.

A testing program including both intelligence tests and educational tests, constituted a survey whose chief purpose was to secure data with which to deal with the individual in reclassification.

BRACEWELL, R. H. "Segregation in ability groups as a means of taking account of individual differences." (In National Education Association. *Addresses and Proceedings, 1921*. pp 674-675.)

Argues that individual instruction is expensive and unsocial and that to care for pupils differing widely, sections must be formed on the basis of ability.

BRAINERD, M. S. "Intelligence testing at Martins Ferry." *Educational Research Bulletin, Ohio State University*. 2:67-70. March 7, 1923.

An account of a classification scheme based on intelligence testing. Instruction was differentiated according to the character of the section and a flexible promotion system was adopted. A revised course of study is the present need.

BREED, F. S. "Teaching the class and reaching the pupil." *School and Society*. 18:691-696. December 15, 1923.

Advocates that the next practical steps for the schools in adjusting instruction to the varying capacities of pupils is to adopt homogeneous grouping based upon ability and course differentiation.

BREED, F. S. "Use of tests in classification." (in *Public School Methods*. Rev. ed. Chicago, School Methods Publishing Company, 1921. Vol. 3, pp. 138-147.)

BRIGGS, T. H. "Individual differences." (In his *The Junior High School*. Boston, Houghton Mifflin Company, 1920. pp. 133-152.)

States that pupil differences have been met by the schools by adjustments such as these: differentiated curricula; promotion by subject, double promotion, and irregular promotion; minimal essentials; homogeneous grouping of pupils, etc.

BRIGGS, T. H. "Provisions for abilities by means of homogeneous grouping." *Third Yearbook of the National Association of Secondary-School Principals*. Cicero, Ill. The Association, 1919. pp. 53-62.

After answering the objections which have been raised to the segregation of groups, the author proceeds to describe the experiment in classification which was conducted at the Speyer Experimental Junior High School, New York City. The results were gratifying.

BRINKLEY, E. S. "Individual differences and the junior high school." *Virginia Journal of Education*. 18:3-6. September, 1924.

Proposes that the differentiated curricula with guidance of pupils, and homogeneous ability groups will accomplish much in providing for individual differences.

CALIFORNIA COUNCIL OF EDUCATION. "Basis for determining grading and promotion of pupils." *Sierra Educational News*. 20:86-87. February, 1924.

Personal, mental, scholastic, and social elements must be considered in determining promotion. Standards for promotion to low-seventh-grade classes are listed.

CHASE, L. S. "The need and use of testing in the elementary school." (In National Education Association. Department of Elementary School Principals. *Second Yearbook*. pp. 267-275. Bulletin, Vol. 2, No. 4. July, 1923.)

After having made a study of teachers' marks to show how unreliable they were for grouping purposes, the teachers of the Glenfield School at Montclair, New Jersey, approved the introduction of standard educational and mental tests for this purpose. The results of a two years' trial are most satisfactory.

"Classification and promotion of pupils." (In U. S. Bureau of Education: *Report of the Commissioner, 1898-99*. pp. 303-356.)

Contents: "The development of the short-interval system in St. Louis," by W. J. Harris; "The Elizabeth plan of grading," by W. J. Shearer; "The Seattle plan of promotion and classification," by F. J. Barnard; "Plan of the North-side schools of Denver," by J. H. Van Sickle; "Promotions in the grammar schools of Cambridge, Massachusetts," by Francis Cogswell; and "The grading and promotion of pupils," by J. T. Prince.

COOK, R. R. "A study of the results of homogeneous grouping of abilities in high-school classes." *Twenty-Third Yearbook of this Society*. Bloomington, Ill., Public School Publishing Company, 1924. Part I, pp. 302-312.

This study seeks to determine by experimentation, under controlled conditions, whether pupils are really benefited by being segregated according to ability. No special teaching methods were formulated. The evidence gathered would not justify homogeneous grouping.

COURTS, B. M. "The adaptation of subject matter and instructional methods to grammar-grade groups of varying ability." *Elementary School Journal*. 24:773-779. June, 1924.

The seventh- and eighth-grade classes of the Longfellow School, Oak Park, Illinois, were divided into "Alpha," "Beta," and "Delta" groups. Work was adapted to the Alphas by assigning large units and problems, to the Betas and Deltas by more detailed assignments and supervision. Topics and problems are described to illustrate these points.

CUBBERLEY, E. P. "Classifying and promoting the pupils." (In his *The Principal and His School*. Boston, Houghton Mifflin Company, 1923. pp. 358-384.)

A summary of plans used for promotion, homogeneous grouping, and school adjustments for special classes.

CUBBERLEY, E. P. "Promotional plans." (In his *Public School Administration*. Boston, Houghton Mifflin Company, 1916. pp. 300-312.)

A discussion of the various promotional plans which have been devised to increase the flexibility of the grading machinery and break up the lock-step in the public schools.

DAVIS, HELEN. "Classification by intelligence tests in the smaller schools." (In National Education Association. Department of Elementary School Principals. *Second Yearbook*. pp 210-219. Bulletin, Vol. 2, No. 4. July, 1923.)

Suggests the following administrative devices for improving classification double promotion, sectioning within a room by subjects, the special-help teacher, controlling entrance to the first grade, and the special room. Gives advice on the administration of the tests.

DEMPSEY, C. H. "Promotion of pupils." (In U S. Bureau of Education. *Special Features in City School Systems*. Washington, Government Printing Office, 1913. pp. 33-37. Bulletin, 1913, No. 31.)

Describes the older plan of promotion used in the Malden, Massachusetts, schools as well as the revised one. Individual differences will be much better provided for under the new.

DICKSON, V. E. "What first-grade children can do in school as related to what is shown by mental tests." *Journal of Educational Research*. 2:475-480. June, 1920.

A description of an experiment which bears evidence that the plan of segregating in the first grade is advantageous.

DIETRICH, H. O. "Educational practices growing out of homogeneous grouping by abilities in Norristown." *Eleventh Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1924. pp. 84-93. (University of Pennsylvania Bulletin. Vol. 24, No. 38. June 7, 1924.)

"Describes the plan at Norristown, Pa., for modifying the curriculum and method of presentation to fit each ability group. Presents numerous graphs in support of his contention that such modification can lead to uniform advancement and superior achievement."

DITMARS, THOMAS. "Intelligence tests as a basis for classification and grading." *Education*. 44:33-39. September, 1923.

Cites a number of experiments in which grouping by objective tests has proved superior to former methods of grouping.

DOOLITTLE, H. S. "Negaunee adopts modified plan of grouping pupils according to ability." *Michigan Education Journal*. 1:147-149. December, 1923.

After seven years of dividing the sixth, seventh, and eighth grades into four homogeneous sections as determined by teachers' judgments, the plan was abandoned as unsatisfactory. The nine objections which were raised to it are presented. The new groups are heterogeneous, depending upon the rearrangement of subject matter and different methods of instruction to take care of individual differences.

DOTEN, WILLARD. "Junior-high-school grouping." *American School Board Journal*. 64:42-43, 136. April, 1922.

A description of the groupings which were made in the Montclair, New Jersey, junior high schools for a period of six years. Seven tables and three charts serve to illustrate the text.

EISENHART, W. W. "Changes in educational procedure in Tyrone growing out of the grouping of pupils by abilities." *Tenth Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1923. pp. 69-74. (University of Pennsylvania Bulletin. Vol. 23, No. 38. June 9, 1923.)

Classes are divided into three groups upon the basis of achievement test scores and teachers' rating. Provision is made for the easy transfer of pupils from one group to another and from grade to grade.

ENGEL, A. M. "Characteristic and significant differences between X and Z pupils in the Detroit public schools." *Elementary School Journal*. 24:747-754. June, 1924.

Groups of pupils classified on the basis of intelligence show differences in physical, moral, pedagogical, and social development.

FEINGOLD, G. A. "The sectioning of high-school classes on the basis of intelligence." *Educational Administration and Supervision*. 9:399-415, 467-486. October and November, 1923.

Homogeneous grouping was tried out at the Hartford Public High School with the class entering September, 1922. The article explains how the grouping was administered, to what extent scholarship was increased, what final conclusions may be drawn from the experiment, and how the teachers viewed it.

FISHER, J. M. "Educational practices growing out of the homogeneous grouping of pupils in Ambler." *Eleventh Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1924. pp. 109-113. (University of Pennsylvania Bulletin. Vol. 24, No. 38. June 7, 1924.)

"Shows by table and graph wide variations in individual achievement on Stanford achievement test."

FLYNN, M. C. "Classification according to the promotion age." (In National Education Association. Department of Elementary School Principals. *Second Yearbook*. pp. 194-209. Bulletin, Vol. 2, No. 4. July, 1923.)

Discusses the way in which the Micheltorena Street School of Los Angeles has met the needs of individual pupils. It develops a more flexible system of gradation by providing for a plan of homogeneous grouping, a maximal-minimal course of study, subject promotion, adjustment periods, and progress at individual rate of speed.

FORD, E. L. "Unit system of grading and promotion." *Education*. 39:389-402. March, 1919.

A system which approximates individual teaching by using a grading which is constantly changing according to the attainments of the pupils. The system is explained and illustrated and its advantages listed.

FRANZEN, RAYMOND. "The accomplishment quotient: a school mark in terms of individual capacity." *Teachers College Record*. 21:432-440. November, 1920.

Advocates that the accomplishment quotient is the proper measure to use in deciding whether a child is properly classified or not. Believes that it would also be an ideal school mark.

FRASIER, G. W. "The measurement of intelligence as an aid to administration." *Educational Administration and Supervision*. 6:361-366. October, 1920.

Devoted almost exclusively to case studies. Individual pupils were correctly graded by means of mental tests and their subsequent progress noted.

FREEMAN, F. N. "Sorting the students." *Educational Review*. 68:169-174. November, 1924.

"This is a timely and judicious discussion of the reasons for and against the growing practice of grouping students according to ability and achievement tests."

GERSON, A. J. "The Philadelphia experiment in ability grouping." *Tenth Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1923. pp. 62-64. (University of Pennsylvania Bulletin. Vol. 23, No. 38. June 9, 1923.)

Three ability groups are recognized—a superior group, an average group, and an inferior group. These were selected on the basis of the judgment of the teachers, supplemented by the use of standard intelligence tests. Emphasis is placed on a differentiated curriculum, minimal essentials, incidental promotion, and teaching methods adjusted to varying needs.

GIBSON, J. E. "Double promotion in McComb city schools." *American School Board Journal*. 67:100-103. September, 1923.

Explains the plan of double promotion as used in the McComb, Mississippi, city schools to make provision for the bright pupil.

GOBLE, W. L. "Report on homogeneous grouping in Illinois high schools." *Proceedings of the High School Conference, 1923*. Urbana, Ill., University of Illinois, 1924. pp. 55-63. (University of Illinois Bulletin. Vol. 21, No. 25. February 18, 1924.)

A report based on the returns of a questionnaire. Special reports on homogeneous grouping in English, Latin, and mathematics, by J. G. Walker, Laura Woodruff, and E. W. Schreiber, respectively, are included.

"Grouping pupils on the basis of ability." (In Cleveland, Ohio. Board of Education. *The First of a Series of Surveys of the Department of Instruction, 1921*. pp. 18-21.)

An account of a plan of grouping pupils into classes on the basis of ability. It was first tried out in the first grades of several schools and in the 7B grades of all junior high schools during the school year 1920-21.

HAGGERTY, M. E. "Specific uses of measurement in the solution of school problems." *Seventeenth Yearbook of this Society*. Bloomington, Ill., Public School Publishing Company, 1918. Part II, pp. 25-40.

The individual differences which tests reveal must alter profoundly the whole program of education. The article enlarges upon the changes suggested by a questionnaire.

HARDWICK, F. T. "An experimental use of intelligence tests in classification." (In National Education Association. Department of Elementary School Principals. *Second Yearbook*. pp. 219-229. Bulletin, Vol. 2, No. 4. July, 1923.)

The Central School of Everett, Washington, housing the majority of the eighth grades of the city, was the seat of this experiment. The article indicates the procedure and the results made in the use of intelligence tests for arranging pupils in groups. These groups are also compared as to their standing in educational tests. Eight tables are included.

HARRIS, W. T. "Class intervals in graded schools." (In National Education Association. *Addresses and Proceedings, 1900*. pp. 332-340.)

While the author disapproves of individual instruction, he does favor continual readjustment of classification to provide for differences in rates of progress.

HARTWELL, C. S. "Liberating the lower education." *School Review*. 15:436-458. June, 1907.

Composed largely of random quotations taken from six hundred responses to a questionnaire on the advisability of promotion by subject.

HARTWELL, C. S. "Promotion by subject and three-year courses." *School Review*. 15:184-196. March, 1907.

The opinions of many leading educators are cited in proving this contention. Promotion by subject is advocated for at least the upper six grades.

HENRY, T. S. "Flexible promotion schemes as related to the school progress of gifted children." *Nineteenth Yearbook of this Society*. Bloomington, Ill., Public School Publishing Company, 1920. Part II, pp. 11-27.

A summary and brief discussion of different plans of grading and promotion. An examination will show that each makes some provision for capable pupils.

HORN, J. L. "The classification of pupils for purposes of instruction." (In his *The American Elementary School*. New York, The Century Company, 1923, pp. 227-251.)

Although the chronological age of pupils has been the chief determinant in their grouping, their intelligence status has recently been replacing it. Their physiological, emotional, and maturity age will be the next factors to be considered. A differentiated education must come, setting up varying goals for varying groups in both qualitative and quantitative terms.

HUGHES, W. H. "Capacity levels and scientific classification." *American Educational Digest*. 43:11-12. September, 1923.

Scientific classification requires that elementary schools of eight grades should have at least one thousand pupils each. This would make possible five parallel tracks, each with its appropriate curriculum.

JOHNSON, F. W. "Classification of pupils according to ability." (In Bell, J. C. ed. *Contributions to Education*. Yonkers-on-Hudson, N. Y., World Book Company, 1924. Vol. 1, pp. 214-220.)

A discussion of the various methods employed in segregating pupils with detailed description of the plan used in the Horace Mann Schools.

JUDD, C. H. "Grouping pupils in classes." (In his *Introduction to the Scientific Study of Education*. New York, Ginn and Company, 1918. pp. 96-112.)

Discusses the reasons which validate sectioning, suggests readjustments of the curriculum, and describes changes which have been made in the grading system in order to meet individual needs.

KALLOM, A. W. "Intelligence tests and the classroom teacher." *Journal of Educational Research*. 5:389-399. May, 1922.

Intelligence tests may be used successfully in guiding teachers in making promotions and dealing with individual pupils, in guiding pupils in the choice of courses, in advancing demoted pupils, and in sectioning grades.

KENNEY, ELIZABETH. "Intelligence tests at work." *Journal of Educational Method*. 3:147-152. December, 1923.

In classifying the pupils in the Junior High School of Waterloo, Iowa, a compromise method was used. This method adds together the pupil's score and his index of brightness. The composite judgment of the teachers was also taken into account. A chart illustrates the method devised for sectioning.

LAIRD, D. A. "A study of the influence of sectioning students upon their achievement." *Journal of Educational Psychology*. 14:143-153. March, 1923.

Reports the findings of a study of the marks received by students in an elementary course in college psychology for a ten-year period. The students were divided into two heterogeneous sections meeting at nine and eleven o'clock, respectively.

LAU, ARNOLD. "Adaptation to group needs on ability bases in ninth-grade English." *Sixth Yearbook of the National Association of Secondary-School Principals*. Cicero, Ill., The Association, 1922. pp. 63-85.

Minimal requirements for the three-fold sections are definitely stated together with the results of grammar and composition tests. Emphasizes that sectioning is merely a device for individualizing instruction. A good discussion by R. H. Bracewell followed the address.

LAYTON, W. K. "The group intelligence testing program of the Detroit public schools." *Twenty-First Yearbook of this Society*. Bloomington, Ill., Public School Publishing Company, 1922. Part II, pp. 123-130.

The group tests are instruments in classifying pupils into X, Y, and Z groups when they enter school for the first time, are given to pupils who are two years or more over age for their grade, and to candidates for entrance to special advanced classes.

LAYTON, W. K. "The reclassification of pupils in one elementary school." (In National Education Association. Department of Elementary School Principals. *Second Yearbook*. pp. 239-246. Bulletin, Vol. 2, No. 4, July, 1923.)

A discussion of the resectioning of the Dwyer School of Detroit and of some of the results obtained. Ten tables included.

LOWRY, ELLSWORTH. "New tendencies in the organization of education." *Educational Administration and Supervision*. 6:27-32. January, 1920.

Deals with an experiment in the first six grades of the Training School in the Winona State Normal School to solve the problem of individual differences and of retardation. Homogeneous grouping was the remedy which proved decidedly effective.

LUKENS, M. L. "Educational practices growing out of grouping by abilities in Upper Darby." *Eleventh Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1924. pp. 94-104. (University of Pennsylvania Bulletin. Vol. 24, No. 38. June 7, 1924.)

"Presents results of surveys of Grades V, VI, and VII, in Upper Darby, where children are grouped by ability. Gives full tables. Concludes that, even after reclassification, the problem of the individual child still exists."

MCCALL, W. A. "Measurement in classifying pupils." (In his *How to Measure in Education*. New York, The Macmillan Company, 1922. pp. 19-66.)

A statistical study of classifying pupils by means of intelligence tests, educational tests, and teachers' judgment. Rules for the procedure in reclassifying both the small and large school are given.

McFARLAND, B. B. "A study of first-grade promotion control." *Kindergarten and First Grade*. 8:45-52. February, 1923.

Describes the procedure which was adopted in dividing a first-grade class of fifty-three children. Many case studies are reported.

MACKIE, A. "The formation of class groups." *Schooling, Sydney, N.S.W.* 7:10-24. October, 1923.

A theoretical treatment of homogeneous class groups. Such groups must be composed of pupils of nearly equal natural capacity and scholastic attainments, selected by means of mental and scholastic tests. A four-fold scheme of grouping is described and recommended.

MASTON, R. C. "Classification of students based on mental tests." *Proceedings of the Second Annual Educational Conference*. Columbus, Ohio, The Ohio State University, 1922. pp. 98-106. (The Ohio State University Bulletin. Vol. 27, No. 16. March 24, 1923.)

The seventh, eighth, and ninth grades of the Martins Ferry, Ohio, public schools have been trying a grouping scheme. The plan is carefully explained. Suggests what readjustment of courses and modified methods of instruction should follow such procedure.

MATHEWS, M. E. "Grouping pupils in English according to ability." *Tenth Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1923. pp. 291-296. (University of Pennsylvania Bulletin. Vol. 23, No. 38. June 9, 1923.)

A questionnaire was sent to the English departments of about thirty high schools throughout the country and the eleven high schools in Philadelphia. The deduction drawn from the replies is that, while grouping is desirable, there is a feeling of uncertainty as to the retarded group.

MEEK, C. S. "A study in retardation and acceleration." *Elementary School Journal*. 15:421-431. April, 1915.

The Boise, Idaho, schools use an individual standard in promoting pupils. The results claimed are (1) less cost per pupil (2) increased school attendance (3) less congestion in lower grades and (4) better treatment of exceptional pupils.

MILLER, W. S. "The administrative use of intelligence tests in the high school." *Twenty-First Yearbook of this Society*. Bloomington, Ill., Public School Publishing Company, 1922. Part II, pp. 189-222.

Intelligence tests satisfactorily function in sectioning classes on the basis of mental ability. They make possible an adaptation of the technique of instruction to the needs of the group and may make competition operative as an incentive.

MITCHELL, DAVID. "Psychological examination of pre-school age children: a demonstration of the classification of children according to ability." *Pedagogical Seminary*. 31:108-146. June, 1924.

A detailed, statistical report of an experiment conducted in three schools by the New York State Association of Consulting Psychologists. There are twelve charts and twenty-four tables.

MITCHELL, G. W. "Promotion of pupils." *American School Board Journal*. 48:65-66. April, 1914.

Describes the system of promotion and the method of assigning pupils to groups as practiced in the Johnsonburg, Pennsylvania, schools.

MONROE, W. S. *Relation of Sectioning a Class to the Effectiveness of Instruction*. Urbana, Ill., University of Illinois, 1922. 18 pp. (University of Illinois Bulletin. Vol. 20, No. 11. November 13, 1922. Bureau of Educational Research, College of Education Bulletin, No. 11.)

Three plans of sectioning were tried out in sixteen elementary schools of Chicago. The monograph states the problem, outlines the plan of the experiment, summarizes the data, and interprets the results.

MOORE, W. E. "Mental tests used as a basis for reorganizing a school." (In National Education Association. Department of Elementary School Principals. *Bulletin*. Vol. 2, No. 3. pp. 124-129. April, 1923.)

"A resume of the experiences in classifying and regrouping the pupils of Longfellow School, Oakland, California."

MORRIS, F. A. "A plea for flexibility in promotion: a scheme for getting it." *American School Board Journal*. 57:28-29. November, 1918.

Advocates promotion by subject in the grades as the ideal way to give a child just the right amount of time to do work thoroughly without wasting time or overdoing.

MORRISON, H. C. *The Teaching Technique of the Secondary School*. Ann Arbor, Mich., Edwards Brothers, 1924. pp. 71-94.

MORTON, R. L. "The classification of pupils in Ohio public schools." *Educational Research Bulletin, Ohio State University*. 3:317-321. November 12, 1924.

A comprehensive summary of the report prepared by the Classification Committee appointed by Vernon M. Riegel, State Director of Education in Ohio.

MOYER, E. L. "A study of the effects of classification by intelligence tests." *Twenty-Third Yearbook of this Society*. Bloomington, Ill., Public School Publishing Company, 1924. Part I, pp. 313-322.

The achievement of high-school pupils who were grouped into classes on the basis of their standing in intelligence tests is compared with pupils of like ability who were taught in mixed classes. The comparison is made by measuring their attainment in algebra and Latin by standardized tests and teachers' marks.

NOBLE, H. M. *Classification of School Children According to Mental Age*. 1920. Thesis (M.A.) Ohio State University. 47 typewritten pages.

A record of the testing and the reclassification of pupils on the basis of the testing which took place in the Northwood Public School of Columbus, Ohio, from October, 1919, to the middle of January, 1920.

ODELL, C. W. "The double-track system in a small school." *Elementary School Journal*. 22:544-546. March, 1922.

Describes a system which brings a more flexible type of organization to a small school by providing sections for pupils of varying ability.

ODELL, C. W. *Provisions for the Individual Differences of High-School Pupils*. Urbana, Ill., University of Illinois, 1923. 155 pp. (University of Illinois Bulletin. Vol. 21, No. 4. September 24, 1923. Bureau of Educational Research, College of Education Circular No. 22.)

Nine different plans which have been actually used in high schools are described.

ODELL, C. W. *The Use of Intelligence Tests as a Basis of School Organization and Instruction*. Urbana, Ill., University of Illinois, 1922. 78 pp. (University of Illinois Bulletin, Vol. 20, No. 17. December 25, 1922. Bureau of Educational Research, College of Education Bulletin, No. 12.)

A report of an experiment carried on in eight elementary schools of Chicago to determine whether or not it is advisable to promote and classify pupils on the basis of mental age and intelligence quotients.

OGLESBY, ELIZA. "A study of the achievements in reading of the X, Y, Z groups." *Detroit Journal of Education*, 2:57-59. April, 1922.

OHIO. State Department of Education. Classification Committee. *The Classification of Pupils in the Elementary Schools*. Columbus, Ohio, The Heer Printing Company. (In press.)

"The findings of a committee (B. R. Buckingham, Chairman) appointed by State Superintendent Vernon M. Riegel to inquire into the extent to which grouping, classification, and segregation of pupils were in effect in Ohio. The reports indicates the bases, methods, and results secured by these administrative adjustments and makes certain recommendations. Problems are suggested and a bibliography is appended."

PARK, F. R. "A grading and promotion plan based on the use of intelligence and educational tests." *Elementary School Journal*. 24:219-226. November, 1923.

An account of the plan in operation in the public schools of Hamburg, New York.

PARKER, C. M. "Group work in reading." *Detroit Journal of Education*, 3:21-24. September, 1922.

Discusses a plan of conducting reading classes organized into groups according to three levels of pupil ability. Contains a description of a typical lesson.

PECHSTEIN, L. A. "Homogeneous grouping of high-school pupils by intelligence tests." *Proceedings, Third Annual Ohio State Educational Conference*. Columbus, Ohio, Ohio State University, 1923. pp. 352-353. (The Ohio State University Bulletin. Vol. 28, No. 2. August 31, 1923.)

An abstract of an address in which homogeneous ability grouping is justified because it recognizes differences in individuals, facilitates in adapting curriculum requirements to individual capacity, and creates the proper environment for natural expression.

PITTENGER, B. F. "The school and the individual." *American Schoolmaster*. 9:193-205. May, 1916.

"The author maintains that the school should give special attention to the quantitative aspects of inherent variations and to the qualitative aspects of acquired differences by providing a very flexible system of promotion throughout each school course."

"Recognizing individual differences." *Elementary School Journal*. 21:164-166. November, 1920.

A description of a modification of the Cambridge plan of grading which was introduced into the school system of Staunton, Virginia.

ROWLAND, S. V. "Changes in educational procedure growing out of the grouping of pupils by ability." *Tenth Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1923. pp. 64-69. (University of Pennsylvania Bulletin. Vol. 23, No. 38. June 9, 1923.)

The article is devoted to the methods used with the various groups in the Radnor Township, Pennsylvania, schools. It states, however, that considerable individual instruction is given in regular coaching periods.

RUEDIGER, W. C. "Homogeneous grouping of pupils." *Eleventh Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1924. pp. 78-84. (University of Pennsylvania Bulletin. Vol. 24, No. 38. June 7, 1924.)

"Discusses article by Herbert D. Bixby in *Educational Review* for April, 1924. Concludes that 'the homogeneous grouping of pupils and other well-organized plans for meeting different degrees of ability are an essential element in the administration of education in a democracy.'"

SANTEE, A. M. "Results of classification of pupils based on ability as shown by intelligence tests, tests of achievement, and teachers' marks." (In National Education Association. Department of Elementary School Principals. *Second Yearbook*. pp. 276-283. Bulletin, Vol. 2, No. 4. July, 1923.)

Discusses the results of classification in the Washington Junior High School, Duluth, Minnesota. Includes the course of study offered in shop mathematics.

SCHLEIN, W. C. "Individual differences: their recognition in the elementary and junior high schools." *Popular Educator*. 41:69-70. October, 1923.

Differentiated curricula, homogeneous grouping, irregular promotions, tutoring, and supervised study are advocated as the means of adjusting instruction to these differences.

SEARS, J. B. "Grading and promoting." (In his *Classroom Organization and Control*. Boston, Houghton Mifflin Company, 1918. pp. 123-143.)

To meet the demands of individual differences, different types of flexibility in grading and promotion have been devised. This chapter discusses some of these types.

SEASHORE, C. E. "College placement examinations." *School and Society*. 20:575-578. November 8, 1924.

Believes that the placement examination will furnish for higher education the most effective principle of recognizing the individual. Advocates the use of placement examinations in sectioning university and college classes. Describes those which have been formulated at the State University of Iowa.

SEASHORE, C. E. "Gifted student and research." *Science*, n.s. 56:641-648. December 8, 1922.

Universities and colleges are advised to follow certain procedures in the case of students of superior ability. The following procedures are discussed: sectioning classes on the basis of ability, honor courses, early contact with mature teachers, flexibility as to length of time for degree, and comradeship with teachers.

SEASHORE, C. E. "Recognition of the individual." *Science*. n.s. 60: 321-325. October 10, 1924; also in *Journal of Engineering Education*. n.s. 15:111-122. October, 1924.

Professional schools may so change from traditional methods that precise recognition of the individual may be achieved. Suggests the following program: (1) college qualifying examination, (2) department placement examinations, (3) sectioning of classes, (4) educational guidance, (5) spread of assignment, and (6) reward of the individual.

SEASHORE, C. E. "The role of a consulting supervisor in music." *Eighteenth Yearbook of this Society*. Bloomington, Ill., Public School Publishing Company, 1919. Part II, pp. 111-123.

Suggests as a true solution, both in economy of time and efficiency of achievement in music, that three divisions be made of each grade or small group of grades, with continual shifting from one division to another as ability warrants, and with free promotion or demotion.

SHEARER, W. J. "Faulty grading in our public schools." *Forum*. 33: 469-473. June, 1902.

Pleads for greater freedom in the work of the public schools, and especially for more elasticity in the method of classification. Each pupil should be advanced as fast as his abilities warrant.

SHELDON, V. G. "Speed grouping in primary grades of Rockford, Illinois." (In National Education Association. Department of Elementary School Principals. *Second Yearbook*. pp. 229-239. Bulletin, Vol. 2, No. 4. July, 1923.)

Groups are arranged according to mental age and are administered according to the enrolment and the building conditions. The advantages noted are the improvement of classroom instruction, the enrichment of the curriculum, the emphasis on minimal essentials, an enlarged opportunity for the study of individual differences, and the economy of the new system.

SHERROD, C. C. "Grouping pupils for instructional purposes." *American School Board Journal*. 67:34-36, 123. December, 1923.

The subject is treated under the following captions: (1) a brief history of grouping pupils, (2) the three outstanding types of grouping, (3) cases illustrating present practice, (4) statement of findings in other places, and (5) summary of conclusions.

SONDBERG, DOWETT. "Educational practices growing out of the homogeneous grouping of pupils." *Eleventh Annual Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1924. pp. 113-119. (University of Pennsylvania Bulletin. Vol. 24, No. 38. June 7, 1924.)

"Discusses problems connected with homogeneous grouping, under heads of grading pupils, curriculum, size of classes, selection of teachers, discipline, and method. Gives graphically the effects of homogeneous grouping. A worth while contribution."

STENQUIST, J. L. "Better schools through improving the classification of pupils." *Baltimore Bulletin of Education*. 2:170-173, 176-177. January, 1924.

Under the direction of its Bureau of Research, twenty-two schools in Baltimore have been reclassified as a result of a testing program. The principals of the schools are pleased with the results and many pupils have been decidedly benefited.

STOCKTON, J. L. AND OTHERS. "Criteria for the regrading of schools." *Elementary School Journal*. 22:55-66. September, 1921.

The criteria which are suggested as contributing to the successful reorganization of a school are the following: mental age, chronological age, physical age, pedagogical age, and character age. These criteria were used in an extensive reorganization program in the Training School of the San Jose State Normal School.

STONEBURNER, W. E. "Reclassification program for elementary grades in a small school." *Educational Research Bulletin, Ohio State University*. 3:215-218. September 3, 1924.

Describes how a scheme of classification was devised for a small school with an enrollment of 380 in the first six grades. The experience shows that classified pupils accomplish more work, discipline is easier, and the teachers are more content.

THEISEN, W. W. "The relative progress of VII-B groups sectioned on the basis of ability." *Journal of Educational Research*. 5: 295-305. April, 1922.

A presentation of the results of a study made by using standardized educational tests and teachers' ratings to determine the achievements of different sections of the VII-B grade. The results justify the policy of grouping pupils on the basis of ability.

TORGERSON, T. L. *A Program of Differentiation in the Elementary Schools Based upon Individual Differences*. West Allis, Wis., Department of Educational Measurements, Public Schools, 1924. 6 pp. (Bulletin No. 3.)

The school should adjust itself to individual differences by classifying pupils into more homogeneous groups, by differentiation of curricula, and by differentiation of rate of progress.

VAN DENBURG, J. K. "Speed grouping in the junior high school." (In his *The Junior High School Idea*. New York, Henry Holt and Company, 1922. pp. 36-57.)

Homogeneous grouping makes possible positive lines of work and prevention of waste. Then the course of study must be made to fit the rate of learning of the respective groups and class instruction must be combined with individual consideration of pupils' aptitudes.

WALTZ, C. A. "A four-year program of mental testing." *Proceedings, Third Annual Ohio State Educational Conference*. Columbus, Ohio, Ohio State University, 1923. pp. 113-123. (The Ohio State University Bulletin. Vol. 28, No. 2. August 31, 1923.)

A detailed account of a testing program as carried out in the Xenia, Ohio, schools. Its chief value has been to assist teachers to understand children as individual problems, to group them according to ability, and to establish more or less definite standards of attainment.

WERREMEYER, D. W. "The benefits of grouping students in mathematics on the basis of ability." *Proceedings of the Second Annual Educational Conference*. Columbus, Ohio, Ohio State University, 1922. pp. 300-303. (The Ohio State University Bulletin. Vol. 27, No. 16. March 24, 1923.)

In the West Technical High School of Cleveland, pupils in the IX-B and IX-A classes were classified in three sections upon the basis of intelligence tests, diagnostic tests, and teachers' estimates. Courses of study were adjusted to the groups and the material was taught in a cumulative way. The results were successful and satisfactory.

WISE, C. R. "Ability grouping from the administrator's viewpoint." *Proceedings of the Fourth Annual Ohio State Educational Conference*. Columbus, Ohio, Ohio State University, 1924. pp. 284-287. (The Ohio State University Bulletin. Vol. 29, No. 2. August 31, 1924.)

Indicates some of the problems which the program-maker has to overcome in order to establish successful ability grouping.

PART III. SUPERVISED STUDY ⁴

BRESLICH, E. R. "Supervised study as a means of providing supplementary individual instruction." *Thirteenth Yearbook of this Society*. Chicago, University of Chicago Press, 1914. Part I, pp. 32-72.

An excellent summary of the experiments in supervised study which have been conducted up to the year 1914. A selected bibliography of 19 titles is appended.

HOLSINGER, K. J. "Periodical literature on supervised study during the last five years." *Elementary School Journal*. 20:146-154. October, 1919.

A very helpful résumé of 24 of the best articles on supervised study, as found in periodical literature which have appeared since the *Thirteenth Yearbook* was published.

Entries Contained in Neither of the Foregoing Lists

ALBERTY, H. B. *Directing the study of pupils*. Cleveland, Ohio, Cuyahoga County Board of Education, 1922. 39 pp.

A suggestive and practical handbook for teachers and school administrators. Much of the material is quoted from standard authorities.

ARMSTRONG, R. D. "Some aspects of supervised study in history." *History Teacher's Magazine*. 8:52-59. February, 1917.

Excellent and detailed account of the method used in Hammond, Indiana, High School.

AUSTIN, MYRTLE. "Supervised study in Idaho Falls High School." *Idaho Teacher*, 4:182-183. December, 1922.

The school day is divided into six periods of one hour each. One-half (or less) of a period is used for drill, testing, or recitation; the remainder is devoted to assignment and supervised study. The study plan adopted by the students is included.

BACON, F. L. "The eighty-minute supervised study period." *American School Board Journal*. 63:45-46. September, 1921.

Describes the plan used in the Meriden, Connecticut, High School. It necessitates that all periods rotate, but this has the special advantage of providing that every subject appears once each week in the last period of the day. Time may easily be extended for special work with individual pupils. Most important result is the uniform gain in scholarship.

⁴The present bibliography is limited to titles that do not appear in either the list of 19 titles reported by Breslich or the list of 24 titles reported by Holsinger.

BEAMAN, J. P. "Supervised study." *Ohio Teacher*. 45:160-161. December, 1924.

A brief discussion of supervised study. Some of the items of a questionnaire and the tabulated replies of eighteen principals are included.

BEAUCHAMP, W. L. "A preliminary experimental study of technique in the mastery of subject matter in elementary physical science." (In *Studies in Secondary Education*, 1. Chicago, University of Chicago, 1923. pp. 47-87. Supplementary Educational Monographs, No. 24. January, 1923.)

Detailed findings of an investigation to determine the value of certain study procedures. Twenty-five tables and six figures included.

BEAUCHAMP, W. L. "Supervised study in elementary physical science." *School Review*, 32:175-181. March, 1924.

An excellent and clear presentation of the procedure during the assimilation period in a class of beginning pupils in elementary physical science.

BELTING, P. E. "Supervised study." *Educational Administration and Supervision*. 2:160-162. March, 1917.

Brief description of the method employed in the Oskaloosa, Iowa, High School.

BOSTON HEADMASTERS' ASSOCIATION. *Report on Supervised Study*. Boston, Printing Department, 1920. 50 pp. (Boston Public Schools. School Document No. 12, 1920.)

Continues the study which was made by the High School Masters' Club of Massachusetts in 1917. The report consists principally of quotations from replies to a questionnaire. It shows that the advantages of supervised study seem to outweigh its disadvantages. A useful document.

BRACEWELL, MR. "The Springfield laboratory recitation plan: the third degree in supervised study." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1916. pp. 216-227. (University of Illinois Bulletin. Vol. 14, No. 19. January 8, 1917. School of Education Bulletin, No. 17.)

Describes this plan by showing how it works when applied to geometry.

BRESLICH, E. R. "Supervised study in mathematics." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1914. pp. 247-258. (University of Illinois. College of Education Bulletin, No. 13.)

Summarizes briefly typical experiments made to overcome the faults of the present system of instruction and describes rather fully the experiments in supervised study conducted in the University of Chicago High School. The technique for the administering of this study class and the advantages of this type of instruction are cited.

BRESLICH, E. R. "Supervised study in mathematics." *School Review*. 31:733-747. December, 1923.

Although the title of this article is the same as the preceding, the article itself is not. The author cites nine desirable study habits in general and lists seven strictly applicable to mathematics. He also discusses the technique of supervised study and the results of such study.

BROOKS, S. S. "Supervised study." (In his *Improving Schools by Standardized Tests*. Boston, Houghton Mifflin Company, 1922. pp. 246-273.)

Explains the difficulties in connection with supervised study and suggests silent-reading drill, the question method, finding the topic of a paragraph, and the construction of outlines as offering advantages in conducting this type of instruction. These methods are illustrated.

BROWN, J. S. "Supervised and directed study." (In National Education Association. *Addresses and Proceedings*, 1919. pp. 594-597); also in *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1919. pp. 50-52.

A general discussion of the theory of directed study.

BROWN, J. S. "Supervised study." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1915. pp. 301-305. (University of Illinois. College of Education Bulletin, No. 15.)

A description of the double period plan of supervised study as practiced in the Joliet Township High School. Special attention is given to modern language.

BROWN, W. Q. "The improvement of instruction through supervised study." (In National Education Association. Department of Elementary School Principals. *Third Yearbook*. pp. 245-253. Bulletin, Vol. 3, No. 4. July, 1924.)

An account of two experiments in the Kennedy School, Cincinnati, Ohio. The first involved the construction and the giving of a standardized test to measure the ability of pupils to study; the second, the organization of a seminar class of teachers for the purposing of experimenting with the "mastery technique" in Grades IV to VIII, inclusive.

BROWN, W. W. "Making profitable use of the lengthened period." *School Review*. 32:694-706. November, 1924.

Describes the general plan of supervised study as it has been worked out in the Janesville, Wisconsin, junior and senior high schools. States that a class period of sixty minutes may be approximately divided as follows: twenty minutes for review, fifteen minutes for the assignment, twenty-five minutes for working out the chief difficulties of the assignment.

BROWN, W. W. AND WORTHINGTON, J. E. "Supervised study in Wisconsin high schools." *School Review*. 32:603-612. October, 1924.

Outcomes of an investigation of supervised study in seven Wisconsin high schools. Objective data indicate a superiority for this type of instruction. Five tables included.

BURR, A. W. "How is supervised study doing?" *School Review*. 32:224-226. March, 1924.

A frank statement of conditions as found in many schools in many states. The question is raised whether or not supervised study as at present administered in most schools should be allowed to continue.

BURTON, W. H. "The supervision of study." (In his *Supervision and the Improvement of Teaching*. New York, D. Appleton and Company, 1922. pp. 187-211.)

A general discussion of the problem. Good bibliographical notes are appended to the chapter.

CARTER, R. E. "Teaching a study-habit." *School Review*. 29:695-706; 761-775. November and December, 1921.

Formulates and illustrates by concrete examples some of the important steps in teaching any given study-habit.

CLINE, E. E. "Directing learning." *Education*. 45:193-202. December, 1924.

A philosophy of directed learning is offered followed by an outline of suggestive procedure. The various classroom activities that may function in such a process are cited and a rating list is proposed for checking the actual working of the scheme.

COLVIN, S. S. "Supervised study." (In his *Introduction to High-School Teaching*. New York, The Macmillan Company, 1924. pp. 360-381.)

The chapter treats of the following phases of the subject: (1) reasons for supervised study, (2) objections to it, (3) forms of it, (4) purposes for which the period may be used, (5) fundamental principles to be emphasized in the technique of learning, and (6) indirect results.

CUBBERLEY, E. P. *The Principal and His School*. Boston, Houghton Mifflin Company, 1923. pp. 403-410.

Advice is given as to how to organize a school for directed study, together with some of the required technique.

DAY, G. A. "Supervision of study in the grades." (In National Education Association. *Addresses and Proceedings, 1919.* pp. 598-600.)

States tentative conclusions based on four years of experimentation in elementary classrooms.

DEARBORN, G. V. *How to Learn Easily.* Boston, Little, Brown, and Company, 1916. 227 pp.

The subtitle "Practical hints on economical study" explains the nature of the book quite exactly.

DOWELL, E. S. "The attainment of good work habits in the lengthened period." *Ohio Teacher.* 43:154-157. December, 1922.

Points out the importance of directed study. Discusses the qualities that should be developed in the learner and the agencies that can be used to attain this end. Believes that the instructor is the determining factor in success or failure, although technique is not to be ignored.

DOWELL, E. S. "The use of directed study in the courses in social science in Bucyrus high school." *Ohio Educational Monthly.* 73:1-8. January, 1924.

A comprehensive discussion of the nature of directed study and of the organization of the school for it.

DUNN, G. A. "The value of supervised study." *Teachers College Record.* 18:430-437. November, 1917.

To find out the relative merits of directed and undirected study, an experiment was made in the fourth grade of the public schools of a town system near New York City. Results favored directed study.

EDINGTON, C. O. "The supervised-study project." *Educational Research Bulletin, Ohio State University.* 2:235-236. October 3, 1923.

A preliminary report on the results of a project in supervised study conducted in eight schools in Ohio.

EDWARDS, A. S. "Directed study." *South Carolina Education.* 5:16-17. May 15, 1924.

An address before the Department of Grammar Grade Teachers of the South Carolina Teachers Association on the general importance of directed study, together with a suggested procedure for the teacher in the classroom.

FARNHAM, C. E. "Supervised study." *Education.* 40:171-176. November, 1919.

Discusses the theory and practice of supervised study.

FORDYCE, CHARLES. "Supervised study." *Nebraska Teacher*. 20:209-210. January, 1918.

Results of two studies show that there is sufficient time to include supervised study in school.

FOSTER, H. H. "Study as self-teaching." (In his *Principles of Teaching in Secondary Education*. New York, Charles Scribner's Sons, 1921. pp. 222-246.)

Discusses the study problem in general, with some particular remarks on the meaning and administration of supervised study. Supplementary readings appended.

FRANKS, T. H. "Supervised study in junior high school." *High School Journal*. 5:121-122. May, 1922.

In the Smithfield, North Carolina, Junior High School, supervised study was a great aid in reducing failures. Describes the procedure adopted.

GIST, A. S. "Habits of study." (In National Education Association. Department of Elementary School Principals. *Third Yearbook*. pp. 254-264. Bulletin, Vol. 3, No. 4. July, 1924.)

Study of conditions at the B. F. Day School, Seattle, Washington, relative to what are some of the desirable habits of study, how pupils do study when unsupervised, and how their habits may be improved.

GOODALL, M. B. "Supervised study and individual differences in English." *The High School, Eugene, Ore.* 2:3-5. December, 1924.

An interesting description of a type of supervised study which aided in the instruction of seventh-grade pupils of great variation in ability.

HALL-QUEST, A. L. "The direction of study as the chief aim of the high school." (In Johnston, C. H. ed. *The Modern High School*. New York, Charles Scribner's Sons, 1916. pp. 265-294.)

A general discussion of the theory and practice of the technique of study.

HALL-QUEST, A. L. "Present tendencies in supervised study." *Educational Administration and Supervision*. 1:239-256. April, 1915.

Ascertained what the tendencies were in 1915 by carefully examining all available literature and by means of a postal card questionnaire answered by 532 schools.

HALL-QUEST, A. L. *Supervised Study: a Discussion of the Study Lesson in High School*. New York, The Macmillan Company, 1916. 433 pp.

Gives an excellent summary of the historical aspects of supervised study and of different theories and experiments concerning it. Part 2 of the book discusses how to supervise the study of various high-school subjects.

HALL-QUEST, A. L. "Supervised study as a preparation for citizenship." *Journal of Education*. 91:3-6. January 1, 1920.

Describes how the schools through this type of instruction may train youth in how to study the problems of living. Considerable attention is paid to the organization best adapted for such training.

HALL-QUEST, A. L. *Supervised Study in the Elementary School*. New York, The Macmillan Company, 1924. 473 pp.

The most recent contribution of the champion of supervised study. Part 1 is an exposition of the general principles of administration and supervision, Part 2 shows how supervised study may be conducted in the various elementary subjects. Several chapters have bibliographies appended.

HALL-QUEST, A. L. "Supervised study in the grades." (In National Education Association. *Addresses and Proceedings, 1920*. pp. 502-504); also in *American Education*. 23:396-401. May, 1920.

A daily schedule based on the principles of the learning process, and a lengthened class period arranged for on the weekly instead of the daily basis will remove administrative obstacles. The factors of study which should be taught pupils are listed.

HALL-QUEST, A. L. "Supervised study, the new administrative vision." *American School Board Journal*. 58:25-27. February, 1919.

The individual pupil's study life which is the core of his learning power must be made to function at its highest capacity. Types of supervised study explained and illustrated.

HALL-QUEST, A. L. "Teaching by supervision." *Schoolmen's Week Proceedings*. Philadelphia, The Press of the University of Pennsylvania, 1918. pp. 239-245. (University of Pennsylvania Bulletin. Vol. 18, No. 5. June, 1918.)

A description of supervised study as a type of the laboratory method of study. Its technique is ably discussed.

HALL-QUEST, A. L. "The training of teachers to supervise study." *Educational Administration and Supervision*. 7:160-165. March, 1921.

A description of the method employed by the University of Cincinnati to provide this training.

HANDSCHIN, C. H. "Individual differences and supervised study."
(In his *Methods of Teaching Modern Languages*. Yonkers-on-Hudson, N. Y., World Book Company, 1923. pp. 261-285.)
Briefer account in *Modern Language Journal*. 3:158-173. January, 1919.

Summarizes the various methods which have been employed in modern language teaching in adapting work to suit individual differences. Enlarges upon supervised study as the best method.

HANES, ERNEST. "Supervised study in English." *School Review*. 32:356-363. May, 1924.

Describes the procedure in supervised study in each of the three types of activity within the English Department of the University High School of the University of Chicago.

HANSEN, E. L. E. "How to find time for supervised study in a rural school." *Wisconsin Journal of Education*. 57:4-6. September, 1924.

The day's work is so planned that one of the classes in each quarter of the day does work under special instruction but without supervision. This gives fifteen minutes for supervised study in whichever class in that quarter of the day needs it. The period before school opens is also utilized for this purpose.

HECKERT, J. W. "The effects of supervised study in English composition." *Journal of Educational Research*. 5:368-380. May, 1922.

An investigation conducted with the ninth grade of the William McGuffey High School at Miami University. Conclusions reached were that supervised study is eminently worth while if teachers are able to direct children's efforts intelligently and if they know intimately the most successful methods of procedure.

HICKLE, CAREY. "Supervised study and individual opportunity." *Porto Rico School Review*. 2:25-28. April, 1918; 2:27-32. May, 1918; 3:25-35. May, 1919.

Believes that supervised study is the method to be used in individualizing instruction. Urges flexibility of promotion and advancement by subject.

HICKSON, D. M. "Supervised study and rotating periods." *Ohio Teacher*. 44:9-11. September, 1923; also in *Ohio Educational Monthly*. 72:255-260. October, 1923; and in *Educational Research Bulletin, Ohio State University*. 2:320-323. November 28, 1923.

Describes the system as it operates in the Lancaster, Ohio, High School.

High School Masters' Club of Massachusetts. *Supervised Study and the Longer School Day*. Boston, Massachusetts State Board of Education, 1918. 40 pp. (The Commonwealth of Massachusetts Bulletin of the Board of Education, 1918. No. 3. Whole No. 94.)

Conclusions of a committee appointed to report on the extent to which supervised study had been adopted in the United States and the length of the school day in typical high schools. The data are valuable.

HUGHES, W. H. "Standardizing procedure in combination system of supervised study, varying scope of work, and weighted credit." *Journal of Educational Research*. 2:547-556. September, 1920.

Sets forth some of the methods employed in the Riverview Union High School, Antioch, California, in administering this combination plan. Teachers and student body are stated to be enthusiastic over the plan and its possibilities.

JOHNSON, F. W. "Supervised study." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1914. pp. 78-84. (University of Illinois. College of Education Bulletin, No. 13.)

Gives experimental data and definite conclusions.

JOHNSTON, C. H. AND OTHERS. "Supervised study." (In their *Junior-Senior High-School Administration*. New York, Charles Scribner's Sons, 1922, pp. 201-217.)

A general treatment of the subject.

JOHNSTON, W. H. "Supervised study in the high school and the seventh and eighth grades." *Chicago Schools Journal*. 6:325-328. May, 1924.

Outlines very clearly a procedure which could well be followed in teaching the technique of a specific study-habit.

JUDD, C. H. "Teaching students to study." (In his *Psychology of High-School Subjects*. Boston, Ginn and Company, 1915. pp. 436-472.)

Excellent discussion about how to study and how to organize intellectual material. Emphasizes the fact that it is more important to train the strong student than the weak or mediocre student.

KELLY, D. J. "Administrative problems in supervised study." (In National Education Association. *Addresses and Proceedings*, 1919. pp. 601-602.)

Discusses how to organize and install a practicable scheme for the supervision of study.

KITSON, H. D. *How to Use Your Mind*. 2d ed. Philadelphia, J. B. Lippincott Company, 1921. 253 pp.

Systematizes and puts in available form methods of study which may be imparted by instruction.

KORNHAUSER, A. W. *How to Study*. Chicago, The University of Chicago Press, 1924. 44 pp.

A manual containing suggestions for students on the technique of study and helpful guidance in the formation of good study habits.

LAPPIN, J. C. "Supervised study." *Ohio Educational Monthly*. 68:3-7, 46-50. January and February, 1919.

Reviews different plans which are in use. Contains good advice for the teacher.

LEWERENZ, AMANDA. "A half year's trial of supervised study." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1917. pp. 274-277. (University of Illinois Bulletin. Vol. 15, No. 15. December 10, 1917. School of Education Bulletin, No. 19.)

Describes the Maine, Illinois, method of supervised study. Gives a detailed account of the results of such study in a first-year German class.

MCGREGOR, A. L. *Supervised Study in English*. New York, The Macmillan Company, 1921. 220 pp.

Devoted to the special technique necessary for supervised study in English. Planned primarily for junior-high-school classes where the lengthened period of sixty, seventy, or eighty minutes prevails. The type lessons included illustrate concretely the application of the method.

MARTIN, A. S. "A high-school day of six hours and directed study." *American School Board Journal*. 53:23, 71-72. October, 1916.

An account of the experiment at Norristown, Pennsylvania.

MASON, W. L. "A new system of supervised study." *Education*. 38: 117-120. October, 1917.

Describes very briefly the different systems in vogue and points out some of the striking results following their introduction.

MASON, W. R. "Supervised study for vocational students." *Industrial Arts Magazine*. 9:404-405. October, 1920.

The Altoona, Pennsylvania, High School divides the class period for vocational courses as follows: five minutes for review, fifteen minutes for recitation, and twenty minutes for studying the assignment.

MILLER, H. L. *Directing Study*. New York, Charles Scribner's Sons, 1922. 377 pp.

Presents various illustrative procedures, provides a theory and a plan of organization of classroom work, indicates ways of dealing with individuals of varying achievements in the same group, suggests shifts from the traditionally assigned lesson to directed and controlled classroom activity (study), moves steadily from classified groups to individual activity and the cooperating spirit, and proposes that pupils be taught by being given things to do. An excellent book.

MILLER, H. L. AND JOHNSTON, DOROTHY. "Directing study for mastery." *School Review*. 30:777-786. December, 1922.

While the article is primarily concerned with presenting a procedure by means of which students may gain a sense of mastery of subject matter, it also suggests helpful ways of dealing with individuals of varying achievements in the same class group.

MINOR, RUBY, "Supervised study in the elementary school." *School and Home Education*. 39:168-170. March, 1920.

Excellent brief discussion of the main points at issue.

MINOR, RUBY. "Supervising the study period." (In her *Principles of Teaching Practically Applied*. Boston, Houghton Mifflin Company, 1924. pp. 147-162.)

A general discussion of the importance and need of supervised study in the elementary grades. Its organization is considered.

MITCHELL, HOWARD. "Supervised study in modern languages." *Education*. 38:385-387. January, 1918.

Practical suggestions as to how supervised study may be used advantageously in modern language teaching.

MONROE, W. S. and MOHLMAN, D. K. *Training in the Technique of Study*. Urbana, Ill., University of Illinois, 1924. 66 pp. (University of Illinois Bulletin. Vol. 22, No. 2. September 8, 1924. Bureau of Educational Research, College of Education. Bulletin No. 20.)

A description of the procedure employed in investigating the study habits of high-school students. Directions and exercises for giving training in study habits and an annotated bibliography add to the usefulness of the bulletin.

MOORE, J. G. "Supervised study." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1914, pp. 72-78. (University of Illinois. School of Education Bulletin, No. 13.)

An account of three experiments in supervised study in three different cities.

MORRIS, F. A. "Some experiments in supervised study." *American School Board Journal*. 55:31. November, 1917.

An account of three different methods of conducting supervised study in the Foxcroft, Maine, school system. The individual pupil was better cared for without additional cost.

MORRISON, H. C. "Supervised study." *School Review*. 31:588-603. October, 1923.

Excellent discussion of the theory and practice of supervised study.

NIELSON, C. H. "An innovation in supervised study." *School Review*. 25:220. March, 1917.

The two chief features of this scheme are to aid pupils who are falling behind in their work and to teach classes how to study, by setting aside one of the seven daily periods as a "deficiency period" and by adding one period more to the school day.

NUTT, H. W. "Supervised study." (In his *Supervision of Instruction*. Boston, Houghton Mifflin Company, 1920. pp. 181-192.)

Brief statement of the essentials. Contains outlines suggestive of the technique to be practiced in group study, in individual study conferences, and in make-up work.

NUTT, H. W. "Supervision of the study habits of high-school pupils." (In his *Principles of Teaching High-School Pupils*. New York, The Century Company, 1922. pp. 295-323.)

A good general discussion of the principles and practices involved in the guidance of the learning efforts of pupils.

PARKER, S. C. "Supervised study." (In his *Methods of Teaching in High Schools*. Boston, Ginn and Company, 115, pp. 301-417.)

A good statement of the practices of supervised study. Consult also the author's *Exercises*, pp. E203-215.

PERMAN, A. A. "Adventures in supervised study." *Journal of Education*. 98:490-492. November 15, 1923.

A general description of the status of supervised study in several high schools. The school organization providing for this type of instruction is explained.

PHILLIPS, E. D. "Supervised study." *American School Board Journal*. 62:39. April, 1921.

Defines supervised study as teaching how to study, properly assigning the lesson, and then supervising the work of each pupil as he attempts to master the assignment at his seat. Lists its advantages and disadvantages. Summarizes the different plans in operation and evaluates the results.

PHILIPS, H. S. "Report of a committee on junior high schools, Denver, Colorado." *Elementary School Journal*. 23:13-24. September, 1922.

Results of a questionnaire study concerning the school day, supervised study, and advisory periods, procedure, etc., answered by sixty-three school systems. Data secured from Denver teachers also recorded. There are nine tables.

PICKELL, F. G. "Supervised study in the Lincoln high school." *Nebraska Teacher*. 21: 16-18. September, 1918.

After a study of the systems used in about forty cities, a plan was adopted which involved a school day of four eighty-minute periods, one of which is a "shifting" period on four days each week. Other items of organization and administration are described.

PIEPER, C. J. "Supervised study in natural science." *School Review*. 32:122-133. February, 1924.

Describes the procedure in the University High School of the University of Chicago. States clearly what is being done under the pre-test, pre-view, assimilation, organization, and final recitation phases of the work. Tables and illustrations included.

PORTER, H. V. "Supervised study in biology." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1923. pp. 103-107. (University of Illinois Bulletin. Vol. 21, No. 25. February 18, 1924.)

An interesting discussion of the differences between two classes in biology, the one having a laboratory period every day and doing all of its studying and reciting in class, the other having the traditional two double periods a week. Supervised study now prevails in all the science work and in one-third of the classes in other subjects in the Athens, Illinois, High School.

REAVIS, W. C. "The administration of supervised study." *School Review*. 32:413-419. June, 1924.

Discusses the usual plans of administration, points out their deficiencies and suggests the procedure of the University High School of the University of Chicago as more nearly supplying the ideal conditions for this type of instruction.

ROREM, S. O. "Supervised study as a school project." *Junior High Clearing House*. 1:23-34. April, 1920.

Supervised study is of special value in the junior high school. Suggests what should be done and how it should be done.

ROSS, CARMON. "The problem of supervised study in the grades." *Pennsylvania School Journal*. 67:474-480. April, 1919; also in *Education*. 39:457-470. April, 1919.

Considers these three phases of supervised study: (1) what it is; (2) its advantages and objections; and (3) problems of introducing it into the grades.

SAMPSON, C. H. "Supervised study." *American School Board Journal*. 65:70, 72. July, 1922.

Explains that supervised study is a "leading-on" process which is especially helpful for pupils with individual problems.

SANDWICK, R. L. *How to Study and What to Study*. New York, D. C. Heath and Company, 1915. 170 pp.

Discusses the principles of study. Students will find the last half of the book of special help.

SEXTON, J. W. "Training teachers to supervise." (In National Education Association. *Addresses and Proceedings, 1919*. pp. 602-606.)

The first and most important step is to gain from the teachers a sympathetic attitude toward the supervision of study. Suggests the necessary procedure to gain this end. Then the technique of supervised study must be mastered.

SIMPSON, M. E. *Supervised Study in American History*. New York, The Macmillan Company, 1921. 278 pp.

Describes in detail just how the author actually used this method in teaching history. The principles involved become very apparent in the various lesson illustrations which are offered.

SMITH, R. R. "Supervised study in the Joliet Township High School." *American School Board Journal*. 58:33, 80. March, 1919.

Describes the Joliet double period plan of supervised study. Recommends that the first period be used for study, the second for recitation. Total time is seventy minutes.

SNOW, W. B. "Supervised study." *Boston Teachers News Letter*. 12: 14-18. February, 1924.

Describes certain plans of organization which make a supervised study period possible and points out the special value of the Boston High School system.

STETSON, P. C. "A survey of supervised study." *American School Board Journal*. 54:19-20, 85-86. June, 1917.

A summary of some of the notable experiments which have been made. Results seem to justify its use in meeting individual differences.

STORMZAND, M. J. "Study and supervised study." (In his *Progressive Methods of Teaching*. Boston, Houghton Mifflin Company, 1924. pp 88-139.)

A general treatment of the meaning and forms of study followed by a helpful discussion of supervised study.

STRAYER, G. D. and NORSWORTHY, NAOMI. "How to study." (In their *How to Teach*. New York, The Macmillan Company, 1922. pp. 220-233.)

Excellent discussion of the various types of study.

SUMNER, S. C. *Supervised Study in Mathematics and Science*. New York, The Macmillan Company, 1922. 241 pp.

Discusses the special methods needed in the teaching of mathematics and science. Contains also many suggestions and helpful type lessons.

"Supervised language study." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1915. pp. 296-301. (University of Illinois. College of Education Bulletin, No. 15.)

Report of the results of the Committee of the Modern Language Section. The study is based on a questionnaire.

THOMAS, F. W. *Training for Effective Study*. Boston, Houghton Mifflin Company, 1922. 251 pp.

Since the study period is as important a factor in a child's education as the recitation period, equal attention should be given them. Chapters V, VI, and VII are especially helpful for supervised study.

WAPLES, DOUGLAS. "The study-recitation." (In his *Procedures in High-School Teaching*. New York, The Macmillan Company, 1924. pp. 120-137.)

Defines this type of procedure and considers these questions: "Can the conventional recitation procedure give satisfactory results? Can pupils study effectively in class? How can the teacher apportion his time between the individual and the group?" and "What are the chief difficulties to be expected in adopting this procedure?"

WHIPPLE, G. M. *How to Study Effectively*. Bloomington, Ill., Public School Publishing Company, 1916. 44 pp.

A set of thirty-eight rules on the technique of studying with just sufficient explanatory comment to make them readily intelligible and serviceable.

WHITE, E. A. "An experiment in supervised study." *Educational Administration and Supervision*. 1:257-262. April, 1915.

Describes the system of supervised study as it operates in the Kansas City, Kansas, High School. The schedule of classes, 1914 and 1915, is included.

WILEY, J. A. *Practice Exercises in Supervised Study and Assimilative Reading: a Guide for Directing the Information of Efficient Study Habits*. Cedar Falls, Iowa, The Author, 1922. 112 pp.

This manual "outlines a technique in teaching pupils to study any subject which involves the use of textbook material."

WILSON, H. B. *Training Pupils to Study*. Baltimore, Warwick and York, 1917. 70 pp.; also in *Atlantic Educational Journal*. 12:419-427, 475-481. April and May, 1917.

Analytical presentation of ten factors in study, with definite applications to lessons. Very practical and detailed lesson plans, which are the complete reports of work actually done.

YOUNG, ELLA and SIMPSON, M. R. "A technique for the lengthened period." *School Review*. 30:199-204. March, 1922.

An excellent discussion of the sixty-two minute period as used in the Bucyrus, Ohio, High School.

PART IV. DIFFERENTIATED CURRICULA AND COURSES OF STUDY⁵

"Helpful books on elementary and secondary school curricula."

Research Bulletin of the National Education Association.
1:338-343. November, 1923.

A list of 58 "best" books selected on the judgment of 25 educators. Although these books are chiefly concerned with the problem of building courses of study and curricula, they recognize the basic principle of individual differences and take cognizance of them. Several books devote a chapter or more to discussing this differentiation in detail. The selected and annotated bibliography following the list is valuable. None of its titles is repeated here.

HENRY, T. S. "Annotated bibliography on gifted children and their education." *Twenty-Third Yearbook of this Society*. Bloomington, Ill., Public School Publishing Company, 1924. Part I, pp. 389-443.

An excellent bibliography of over 450 titles covering quite thoroughly the education of gifted children. Many of its entries will discuss the enriched curriculum and course of study as the best provision which the school can make for the superior child. The following list does not duplicate its titles.

ALLTUCKER, M. M. "Building the curriculum." *Journal of the National Education Association*. 13:67-68. February, 1924.

One of the factors involved is the measurement or estimation of each child's physical, social, moral, and mental worth and the subsequent adaptation of the courses of study to meet the needs of different groups of children.

ANTHONY, K. M. "Adapting school procedure to individual differences in children." *Virginia Journal of Education*. 14:43-45. October, 1920.

Standard group intelligence tests and educational tests will assist the teacher in acquiring a working estimate of her pupils. This procedure should be followed by a reorganization of her course of study with the "sliding assignment."

AYRES, L. P. "Differentiation in courses of study." *Journal of Education*. 79:317-318. March 19, 1914.

"Great difference in inherent ability of children. Must differentiate our courses because our children are differentiated by nature. Comparison of ability of best in lower grades with poorest in upper grades."

⁵The bibliography here does not cite any of the 58 "best books" mentioned in the first reference nor any of the more than 450 titles listed by Henry in the second reference in Part IV.

BAGLEY, W. C. "Differentiated curriculum *versus* common elements." *School and Home Education*. 35:215-218. March, 1916; also in National Education Association. *Addresses and Proceedings*, 1916. pp. 958-965.

"Carefully selected, rigorously tested common elements should form the core of every seventh- and eighth-grade program. Around these should be built the differentiations, the diversified offerings, but no one should be permitted to escape the common elements."

BAGLEY, W. C. "Principles justifying common elements in the school program." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1914. pp. 9-21. (University of Illinois. School of Education Bulletin, No. 13.)

While the author justifies differentiated curricula, he believes that it has sometimes been practiced to excess. Shows that a certain measure of uniformity is essential, that it furnishes one rather definite standard for selecting common elements, and does not unduly interfere with desirable differentiation.

BOBBITT, FRANKLIN. "Differentiation of courses." (In his *What the Schools Teach and Might Teach*. Cleveland, Ohio, The Survey Committee of the Cleveland Foundation, 1915. pp. 98-100.)

Describes what differentiation of courses was to be found in the Cleveland schools at the time the survey was made.

BROOKS, E. C. "The need of a new educational content." *Journal of Education*. 79:512-513. May 7, 1914.

BURK, FREDERIC. "Our high-school curriculum: what shall we do about it?" *Western Journal of Education*. 18:3-6. May 19, 1912.

"A discussion of the high-school curriculum based on results of an entrance examination for the San Francisco State Normal School."

BYE, E. C. "A composite course in social science." *Historical Outlook*. 14:145-147. April, 1923.

A description of the course in the Coatesville, Pennsylvania, High School. It is comprehensive and flexible so that it may meet the needs of pupils who expect to go to college and those who do not.

CLARK, M. G. "What may and must we add to the conventional course of study by way of differentiation?" (In Iowa State Teachers Association. *Proceedings*, 1916. pp. 104-109.)

Asserts that the "common pabulum" must be more than minimal essentials. Discusses several types of enriching possibilities.

CLEMENT, J. A. "The business of scientific curriculum-making in secondary education." *Educational Administration and Supervision*. 9:357-366. September, 1923; also in *School Science and Mathematics*. 24:121-130. February, 1924.

Discusses the four factors involved in reconstructed secondary education, one factor being the adaptation of subject matter to individual differences.

COFFMAN, L. D. "Differentiated curriculums versus common elements." *School and Home Education*. 35:213-215. March, 1916; also in *American School*. 2:264-266. September, 1916; and in National Education Association. *Addresses and Proceedings, 1916*. pp. 953-958.

Believes that too much attention has been paid to differences in individuals and not enough to their likenesses. Advocates an enriched and socialized curriculum which retains the common elements as its core.

COLLINS, J. V. "Adaptation." *Educational Review*. 51:286-294. March, 1916.

Outlines a system by which students may be adapted to courses as well as courses to students.

COUNTS, G. S. "Parental occupation and the course of study." (In his *Selective Character of American Secondary Education*. Chicago, University of Chicago, 1922. pp. 55-73. Supplementary Educational Monographs, No. 19.)

A study showing how children coming from various occupational groups reacted to the different curricula which were offered in the high schools of four cities.

COXE, W. W. "School variation in general intelligence." *Journal of Educational Research*. 4:187-194. October, 1921.

A study which revealed the differences in the general intelligence of the pupils in 24 sixth grades in 24 elementary schools in Cincinnati, Ohio, and also showed the extent to which schools themselves differ in the type of their pupils. Compares these facts with the type of community served and concludes that courses of study and curricula should be adjusted to meet varying conditions.

"Curriculum brings teachers big job." *School Bulletin, Kansas City, Kansas*. 2:1. February, 1924.

Proposes to build a course of study which will take into account the individual differences of pupils by outlining courses of study for groups of high, medium, and low levels of intelligence.

DICKSON, V. E. "Differentiation of courses to meet needs of pupils of different levels of ability." (In National Education Association. Department of Superintendence. *Second Yearbook*. Washington, The Association, 1924. pp. 201-206.)

In the Oakland, California, public schools the following plan is being developed: the segregation of pupils into ability groups, the differentiation in content of course, standards of attainment, and, wherever necessary, in methods of instruction.

"Differentiation of the curriculum to meet individual needs of pupils." (In National Education Association. Department of Superintendence. *Second Yearbook*. Washington, The Association, 1924. pp. 193-200.)

A symposium by some of the leading educators in the United States as to the provision which is made in their school systems for curricula differentiation.

DOWNER, JOHN. "The curriculum." *School Index*. 10:270-271. May 2, 1924.

In a general discussion of the principles and factors governing the selection and organization of curriculum material, the author points out the importance of adapting this material to the differences in children. He illustrates by citing, as examples, the Dalton and Winnetka plans.

ELSON, W. H. and BACHMAN, F. P. "Different courses for elementary schools." *Educational Review*. 39:357-364. April, 1910.

The elementary school should provide different courses of study, adapted to the needs of varying districts and of particular groups of children. The plan is described.

ELSON, W. H. and BACHMAN, F. P. "Need of different elementary school courses." *Elementary School Teacher*. 10:202-203. December, 1909.

Describes three ways of providing dual work in the elementary school. These courses are for children who intend to continue their schooling and for those who expect to attend no other school.

FELTER, W. L. "On reconstructing the curriculum in secondary schools." *Educational Review*. 48:37-48. June, 1914.

Would include courses of study which reflect the activities found in society, industrial and commercial. Advocates separate courses for boys and girls, flexible curricula, shorter courses, and more types of high schools.

FRANCIS W. PARKER SCHOOL OF CHICAGO. *The Individual and the Curriculum*. Chicago, Francis W. Parker School, 1920. 158 pp. (Studies in Education, Vol. 6.)

Realizing the need of new materials for the curriculum, the faculty of this school published this study which contains a number of interesting experiments on the adaptation of the curriculum to the individual. The methods and materials used are within the scope of the average classroom.

FRAZIER, C. R. "Should elementary school work be differentiated to meet individual, social, and industrial needs, and how, and what ways and means are available for fitting school work to those needs satisfactorily?" (In Washington Educational Association. *Proceedings, 1916*. pp. 68-74.)

GAMBRILL, J. M. "Experimental curriculum-making in the social studies." *Historical Outlook*. 14:384-406. December, 1923; 15:37-55. January, 1924.

In this report of an extended investigation of the leading experimental schools, considerable data will be found on the adjustments which are being made for individual differences of pupils.

GLASS, J. M. *Curriculum Practices in the Junior High School and Grades V and VI*. Chicago, The University of Chicago, 1924. 181 pp. (Supplementary Educational Monographs, No. 25. November, 1924.)

The results of an investigation of the curriculum practices in fourteen municipal school systems. The core curriculum, elective courses, and subject divisions of the constants are carefully considered. Contains many excellent tables.

GLASS, J. M. "Status of the junior-high-school differentiation of curricula." *Seventh Yearbook of the National Association of Secondary-School Principals*. Cicero, Ill. The Association, 1923. pp. 34-40.

The junior-high-school program of studies has been designated as a "constants-with-variables curricula" as best defining the plan of constants and electives which generally prevails. There is a shift of emphasis, however, from differentiation to guided exploration as preparatory to secondary education.

GRADY, W. E. "Curriculum-making." *Psychological Clinic*. 7:57-67. May, 1913.

In regard to the revision of the New York City courses of study, suggests that varied minimal courses be outlined and tried in different parts of the city to which they are best adapted. Variations should also be allowed for the differences in ability, length of school career, etc., within the group of pupils.

HAILMAN, W. N. "Adjustment of the common-school curriculum to the vocational needs of to-day." *Manual Training and Vocational Education*. 16:129-137. November, 1914.

Discusses the importance of stressing the concrete and practical phases of subjects and of encouraging productive and creative work. This will necessitate greater curriculum differentiation.

HEETER, S. L. "Differentiation in the courses of study for children between twelve and sixteen years of age." (In National Education Association. *Addresses and Proceedings, 1913*. pp. 292-296.)

An account of the differentiation which was made in the Pittsburgh, Pennsylvania, schools in one year. It is a statement of administrative experience.

HIGGINS, E. E. "Suggestions for enriching the content subjects." *Detroit Journal of Education*. 3:166-169. December, 1922.

Describes the enlarged program which was used with the accelerated pupils in the fifth and sixth grades of the Jackson, Michigan, schools.

HOLLEY, C. E. "Curriculum differentiation and administration in typical high schools." *Educational Administration and Supervision*. 1:332-340. May, 1915.

A study based on data secured from the bulletins of 54 high schools located in cities of four thousand or more inhabitants and printed between the years 1912 and 1914.

HOLLISTER, H. A. "Constants and variables in the high-school programme of studies." *Education*. 32:69-74. October, 1911.

Believes that the time has come when variables should be seriously considered in the organization of programs. Their place and time should be appointed with care.

HORN, J. L. "The curriculum as an elementary-school problem" and "Psychological aspects of curriculum formulation." (In his *The American Elementary School*. New York, The Century Company, 1923. pp. 297-352.)

Believes that educational processes should conform to the differentiation which is found in children, this differentiation being provided for from the beginning of their school life. The formulated curriculum goals should also be conditioned by "psychological factors such as maturity, intelligence, emotion, and, in addition, variability in every distinguishable characteristic."

JENSEN, G. C. "The Eureka plan." *Sierra Educational News*. 20: 687-689. December, 1924.

A description of the plan which advocates the differentiation of four purpose groups: (1) the university group, (2) the high-school graduation group, (3) the special certificate group—those who do not graduate, and (4) the part-time group.

JOHNSON, M. H. "Modifications of the curriculum that have been tried." *Bulletin of the New York Society for the Experimental Study of Education*. 4:3. February, 1923.

Cites the various opportunities which the Washington Irving High School of New York City offers girls of different abilities.

JOHNSTON, C. H. "Curriculum adjustment in modern high schools." *School Review*. 22:577-590. November, 1914.

Urges curriculum differentiation wherever possible, the basis for which must be the demands of the different groups of pupils; these groups are to be chosen on grounds of different vocational needs and expectations.

JOHNSTON, C. H. "What is curriculum differentiation?" *Educational Administration and Supervision*. 2:49-57. January, 1916.

Attempts to clear up the confusion which exists relative to the terminology used in connection with the term "curriculum differentiation."

JUDD, C. H. "Problems exhibited by non-promotions." (In his *Measuring the Work of the Public Schools*. Cleveland, Ohio, The Survey Committee of the Cleveland Foundation, 1916. pp. 17-44.)

The fact that there were ten thousand non-promoted pupils in the Cleveland elementary schools in June, 1914, indicates that there is something wrong with the school administration. Urges that there be an extended revision of the course of study.

KELLER, P. G. W. "Rebuilding a course of study." *School Review*. 32:49-52. January, 1924.

An account of how the course of study for the Waukegan, Illinois, Township Secondary Schools was rebuilt. Illustrates the teaching unit in mathematics in which there is proper adjustment for each pupil.

KIRBY, BYRON. "The curriculum." *Educator-Journal*. 21:203-206. December, 1920.

"Some suggestions for changing the course of study beginning with the sixth grade so that the school systems would provide for a gradual divergence in the courses followed, dependent upon the different abilities and different tastes of the children themselves."

LEWIS, W. D. "The high school and the boy." *Saturday Evening Post*. 184:8-9, 88-98. April, 1912.

"In order to meet the needs of all classes of boys, all subjects of study should be placed on an equality, and the content of the courses in each of these lines, and the aims and the methods of instruction should be determined by the capacity of the student as they are and by social and economic needs, rather than by the foundation required for advanced courses or by professional theories as to the complete and logical organization of subject."

MCMANIS, J. T. "Individual differences in the early grades." *School and Society*. 3:289-295. February 26, 1916.

Pleads that a flexible curriculum be allowed for the lower as well as the higher grades in order that the individual differences of pupils may be provided for. Suggests practical solutions for this problem.

McMURRY, F. M. "The uniform minimum curriculum with uniform examinations." (In National Education Association. *Addresses and Proceedings, 1913*. pp. 131-148.)

Criticizes pointedly the proposed New York State plan. Believes that the freedom and initiative of the teacher and the individuality of the pupil should be preserved.

MARSH, C. L. "Curriculum objectives and the adaptation of courses of study to individual differences: enrichment or acceleration." *Proceedings of the Third Annual Ohio State Educational Conference*. Columbus, Ohio, The Ohio State University, 1923. pp. 388-391. (The Ohio State University Bulletin. Vol. 28, No. 2. August 31, 1923.)

Argues that a highly differentiated curricula is the only way to reach every adolescent child. Suggests four divisions of the program of studies—academic, scientific, commercial, and industrial—and recommends grouping of pupils according to ability.

MILLER, H. L. "The broader curriculum of the new secondary school." *Seventh Yearbook of the National Association of Secondary-School Principals*. Cicero, Ill., The Association, 1923. pp. 136-144.

Maintains that both education and vocation can be met by a curriculum of six cores considered as constants. Each pupil should be required to choose two units in each of these six fields. Believes that it is neither desirable nor feasible to have differentiated curricula.

MITCHELL, DAVID. "Children's ability and educational opportunities." (In Bell, J. C. ed. *Contributions to Education*. Yonkers-on-Hudson, N. Y., World Book Company, 1924. Vol. 1, pp. 5-16.)

An excellent discussion of the progress of pupils through the grades, with emphasis on the differences in the ability of pupils and the methods which schools have used and should use to meet these differences. **Adjusting curricula and courses of study has many possibilities.**

MITCHELL, S. C. "For the 90 percent." *School Review*. 31:439-444. June, 1923.

A plea for curricula which will prepare for vocations as well as for college. Strongly advocates vocational training by correspondence in conjunction with high-school training.

MORRISON, H. C. "Reconstructed mathematics in the high school: the adaptation of instruction to the needs, interests, and capacities of students." *Thirteenth Yearbook of this Society*. Chicago, University of Chicago Press, 1914. Part I, pp. -31.

Mathematical courses should be differentiated for cultural and technical purposes, should parallel broad zones of adult activity, and should make special provision for brilliant students.

NEWLON, J. H. "The need of a scientific curriculum policy for junior and senior high schools." *Educational Administration and Supervision*. 3:253-268. May, 1917.

There is great divergence in curriculum practices. Discusses these practices and argues that definite curricula should be designed to meet the needs of definite student groups. These groups are to be determined through a scientific survey of the abilities and vocational needs and intentions of the students.

OMANS, A. C. "Enriched manual arts course for the gifted child." *Detroit Journal of Education*. 3:170-173. December, 1922.

Argues that gifted children should not be confined to the academic courses, that there is much in the manual arts which should be acquired by them, and that the work should be differentiated according to the grade of ability.

PECHSTEIN, L. A. "Curricula-making for pupils of varying ability." *Eighth Yearbook of the National Association of Secondary-School Principals*. Cicero, Ill., The Association, 1924. pp. 24-29.

High-school authorities have been tardy in shaping curricula to fit the needs of its pupils. They must study out and apply new curricula true to the modified conception of the aim of education and justified by modern educational psychology.

PEYSER, NATHAN. "The experimental school." (In Bell, J. C. ed. *Contributions to Education*. Yonkers-on-Hudson, N. Y., World Book Company, 1924. Vol. 1, pp. 128-138.)

Experimental school 181, Brooklyn, has as its fundamental objective "the determining of each child's capabilities and needs and the adapting of educational curriculum and procedure to these individual demands."

RAPEER, L. W. "A core curriculum for high schools." *School and Society*. 5:541-549. May 12, 1917.

Believes that the minimal essentials, the fundamental subjects, should be the core curriculum, required of all pupils. Beyond this a differentiated curriculum should be offered for various and varying groups of pupils.

RIPLEY, E. C. "Should essentials of the course of study vary to satisfy social demands in different school districts? Within the same district?" (In National Education Association. *Addresses and Proceedings, 1915*. pp. 354-358.)

The essentials of reading, writing, and arithmetic are advocated for all children for the first four grades. The next two years should foster further advance in these and other studies; marked variation should begin in the seventh grade.

SALISBURY, E. I. "Administrative uniformity of the curriculum." *Educational Administration and Supervision*. 3:275-279. May, 1917.

Summarizes the eight fundamental divergencies between practice and modern educational theory in regard to the curriculum. Suggests a harmonizing of these two elements in which free play will be allowed individual abilities.

SELDEN, F. H. "Differentiation in course of study." *Journal of Education*. 79:580-581. May 21, 1914.

SNEDDEN, DAVID. "Case group methods of determining flexibility of general curricula in high schools." *Seventh Yearbook of the National Association of Secondary-School Principals*. Cicero, Ill., The Association, 1923. pp. 80-87; also in *School and Society*. 17:287-292. March 17, 1923.

Differentiations of curricula should be preceded by systematic analyses of the conditioning qualities and prospects of learners. Learners whose diagnoses are similar should form case groups, having schemes of educational objectives suitable for each. Upon these the curricula should be based.

SNEDDEN, DAVID. "The character and extent of desirable flexibility as to courses of instruction and training of youths of 12 to 14 years of age." *Educational Administration and Supervision*. 2:219-234. April, 1916; also in National Education Association. *Addresses and Proceedings, 1916*. pp. 965-976.

Advocates a curriculum which will modify the rigidity of the one-course curriculum and which will prevent the wasteful possibilities of entire free election. Such a curriculum should be determined both by the capacities of the learners and by their varying needs.

SNEDDEN, DAVID. "Differentiated program of study for older children in elementary schools." *Educational Review*. 44:128-139. September, 1912.

SNEDDEN, DAVID. "The high school of to-morrow." *School Review*. 25:1-15. January, 1917.

Describes a program of studies, such as the author believes it will be in 1925. The curricula and courses of study are decidedly flexible.

SNEDDEN, DAVID. "Junior high school offerings." *School and Society*. 20:740-744. December 13, 1924.

There should be more differentiation of curricula to meet pupil differences in abilities, extra-school conditions and prospects. The author analyzes one method of dissecting certain problems of curricula and suggests possible courses with certain variations for individual programs.

SNEDDEN, DAVID. "Reorganization of education for children from 12 to 14 years of age." *Educational Administration and Supervision*. 2:425-432. September, 1916.

Advocates the junior-high-school type of organization as best providing a flexible course of study for children of these ages.

TUTTLE, E. M. "Individual psychological examinations at the Washington Irving High School." *Bulletin of High Points*. 4:5-13. September, 1922.

Largely a discussion of individual cases. The follow-up work after a test frequently consists in advising students to change their courses of study.

WAPLES, DOUGLAS. "Indexing the qualifications of different social groups for an academic curriculum." *School Review*. 32:537-546. September, 1924.

Describes an "adaptation of Counts' procedure whereby certain criteria may be used in collecting evidence concerning the relative value of the single academic curriculum to pupils of different social groups."

WASHBURNE, C. W. "What do they teach your children?" *Collier's*. 73:18-19. January 26, 1924; also in *Philippine Education*. 20:572-573. April, 1924.

Forcibly points out that our present courses of study are largely traditional and that they must be reconstructed scientifically according to the needs of children in after life. The procedure is illustrated.

WASHBURNE, C. W. See Part I, Section D, of this bibliography.

WHITNEY, F. P. "Differentiation of courses in the seventh and eighth grades." *Educational Review*. 41:127-134. February, 1911.

That these two grades may function more profitably, the author proposes to give pupils of the seventh grade a choice of courses—one leading specifically to the high school, the other to vocational school or industrial work.

WITHERS, J. W. "The principles on which readjustment of the program of studies should be made." *Proceedings of the High School Conference*. Urbana, Ill., University of Illinois, 1914. pp. 24-32. (University of Illinois. School of Education Bulletin, No. 13.)

A discussion of the theory of the principles advanced. Advocates a fundamental education which provides for marked individual differences in children, is adaptable, and well suited to the nature and capacity of children.

YOUNG, J. R. "Reorganization of the high-school curriculum." *Educational Review*. 53:122-137. February, 1917.

Reorganization may be based on certain underlying principles: (1) conservation of student energy and mental efficiency through elimination of long devotion to studies uninteresting to the individual student; (2) more adherence to the principle of selection and insistence on thoroughness in the essentials of the various courses; (3) more practice in the use and application of the knowledge gained; (4) the introduction of supplementary material dealing with community life, and (5) emphasis on the major industries and social needs of the community.

CONSTITUTION OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

(As Revised at the 1924 Meeting of the Society)

Article I

Name.—The name of this Society shall be “The National Society for the Study of Education.”

Article II

Object.—Its purposes are to carry on the investigation of educational problems, to publish the results, and to promote their discussion.

Article III

Membership.—Section 1. There shall be three classes of members—active, associate, and honorary.

Section 2. Any person who is desirous of promoting the purposes of this Society is eligible to membership and shall become such on payment of dues as prescribed.

Section 3. Active members shall be entitled to vote, to participate in discussion, and under certain conditions, to hold office.

Section 4. Associate members shall receive the publications of the Society, and may attend its meetings, but shall not be entitled to hold office, or to vote, or to take part in the discussion.

Section 5. Honorary members shall be entitled to all the privileges of active members, with the exception of voting and holding office, and shall be exempt from the payment of dues.

A person may be elected to honorary membership by vote of the Society on nomination by the Board of Directors.

Section 6. The names of the active and honorary members shall be printed in the *Yearbook*.

Section 7. The annual dues for active members shall be \$2.00 and for associate members \$1.00. The election fee for active and for associate members shall be \$1.00.

Article IV

Officers.—Section 1. The officers of the Society shall be a Board of Directors, a Council, and a Secretary-Treasurer.

Section 2. The Board of Directors shall consist of six members of the Society and the Secretary-Treasurer. Only active members who have contributed to the *Yearbooks* shall be eligible to serve as directors.

Section 3. The Board of Directors shall be elected by the Society to serve for three years, beginning on January first after their election. Two members of the Board shall be elected annually (and such additional members as may be necessary to fill vacancies that may have arisen).

This election shall be conducted by an annual mail ballot of all active members of the Society. A primary ballot shall be secured in October, in which the active members shall nominate from a list of members eligible to said Board. The names of the six persons receiving the highest number of votes on this primary ballot shall be submitted in November for a second ballot for the election of the two members of the Board. The two persons (or more in the case of special vacancies) then receiving the highest number of votes shall be declared elected.

Section 4. The Board of Directors shall have general charge of the work of the Society, shall appoint its own Chairman, shall appoint the Secretary-Treasurer, and the members of the Council. It shall have power to fill vacancies within its membership, until a successor shall be elected as prescribed in Section 3.

Section 5. The Council shall consist of the Board of Directors, the chairmen of the Society's Yearbook and Research Committees, and such other active members of the Society as the Board of Directors may appoint from time to time.

Section 6. The function of the Council shall be to further the objects of the Society by assisting the Board of Directors in planning and carrying forward the educational undertakings of the Society.

Article V

Publications.—The Society shall publish *The Yearbook of the National Society for the Study of Education* and such supplements as the Board of Directors may provide for.

Article VI

Meetings.—The Society shall hold its annual meetings at the time and place of the Department of Superintendence of the National

Education Association. Other meetings may be held when authorized by the Society or by the Board of Directors.

Article VII

Amendments.—This constitution may be amended at any annual meeting by a vote of two-thirds of voting members present.

MINUTES OF THE CHICAGO MEETING OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

(February 23, 26, and 27, 1924)

The first meeting of the Society was a joint meeting with the National Vocational Guidance Association and the Department of Vocational Education and Practical Arts of the National Education Association. Owing to errors made by those in charge of arrangements at Chicago, this session could not be held in the Gold Room of the Congress Hotel as advertised and it was necessary to pack to the suffocation point the Florentine Room with its nominal capacity of 600. President Judd called the meeting to order at 8:05 Saturday evening, February 23rd, and after a few words of explanation concerning the matter of the *Yearbooks* and the evening's program, introduced as presiding officer for the evening Mr. John N. Greer, Assistant Superintendent of Schools, Minneapolis, Minnesota, and President of the Department of Vocational Education and Practical Arts of the National Education Association.

The following program was then presented, based upon Part II, Section 1 (Vocational Guidance) of the 23rd *Yearbook* of the Society, entitled "Vocational Guidance and Vocational Education for the Industries":

- I. "RECENT INDICATIONS OF PROGRESS IN VOCATIONAL GUIDANCE."
Harry D. Kitson, Professor of Psychology, Indiana University,
and President of the National Vocational Guidance Association.
- II. "WHAT IS THE GUIDANCE EMPHASIS IN OUR PUBLIC SCHOOLS?"
A. H. Edgerton, Supervisor of Vocational Information and Guidance, Teachers College and the Lincoln School, Columbia University, New York City, New York.
- III. "OUTSTANDING DEMANDS FOR GUIDANCE ACTIVITIES IN A CITY SYSTEM."
H. H. Bixler, Director of Vocational Guidance, Atlanta, Georgia.
- IV. "HOW THE PROBLEMS OF GUIDANCE ARE MET IN A SMALL CITY."
John Friese, Technical High School, St. Cloud, Minnesota.
- V. "TRAINING PROGRAMS FOR THOSE WHO ARE RESPONSIBLE FOR VOCATIONAL GUIDANCE."
John M. Brewer, Director of Bureau of Vocational Guidance, Harvard University, Cambridge, Massachusetts.

VI. "CRITICAL REVIEW OF PRESENT DEVELOPMENTS IN VOCATIONAL GUIDANCE WITH SPECIAL REFERENCE TO FUTURE PROSPECTS."

George E. Myers, Professor of Vocational Education, School of Education, University of Michigan, Ann Arbor, Michigan.

DISCUSSION:

Helen T. Woolley, Psychologist, Merrill-Palmer School, Detroit, Michigan.

Emery Filbey, Dean of the Extension College, University of Chicago, Chicago, Illinois.

The discussion from the floor was participated in by Mr. H. D. Hatch of Chicago, Asst. Supt. Hamilton of Sioux City, Mr. Humboldt of Rockford, Illinois; Mrs. Woolley of Detroit, and others.

The second meeting of the Society was held in the Gold Room of the Congress Hotel, Tuesday, February 26th at 8:00 p. m. The audience of some 1200 persons completely filled the auditorium and listened with interest to the discussion of Part I of the 23rd Year-book of the Society, on "The Education of Gifted Children." President Judd presided while the following program was given:

- I. "THE WORK OF THE COMMITTEE ON THE EDUCATION OF GIFTED CHILDREN."
Guy M. Whipple, Professor of Experimental Education, University of Michigan; Secretary of the Society, and Chairman of the Committee.
- II. "METHODS OF SELECTING SUPERIOR CHILDREN IN SCHOOL."
Bird T. Baldwin, Director of the Iowa Child Welfare Research Station, Iowa City, Iowa.
- III. "CHARACTERISTIC AND SIGNIFICANT DIFFERENCES BETWEEN THE "X" AND "Z" PUPILS IN THE DETROIT SCHOOLS."
Anna M. Engel, Assistant Supervisor of Special Education, Detroit, Michigan.
- IV. "THE SCHOOL PROGRESS OF SUPERIOR PUPILS UNDER A SYSTEM OF INDIVIDUAL INSTRUCTION."
Carleton W. Washburne, Superintendent of Schools, Winnetka, Illinois.
- V. "SCIENTIFIC EVIDENCE BEARING ON SPECIAL TREATMENT OF GIFTED CHILDREN."
Frank N. Freeman, Professor of Educational Psychology, University of Chicago, Chicago, Illinois.

DISCUSSION:

Harvey G. Townsend, Professor of Education, Smith College, Northampton, Massachusetts.

H. H. Goddard, Professor of Abnormal and Clinical Psychology, Ohio State University, Columbus, Ohio.

In the discussion that ensued, remarks were made by Messrs. Rugg, West, Gary Myers, and Miss Laura Zirbes. There was also discussion between Messrs. Baldwin and Freeman concerning certain points which had been introduced by Dr. Freeman in his paper. The discussion was concluded by Dr. Whipple.

Immediately after this program was held the Business Meeting of the Society:

The following changes in the Constitution of the Society (sections not cited to remain as at present) were adopted with no dissenting vote:

ARTICLE II

Object:—Its purposes are to carry on the investigation of educational problems, to publish the results, and to promote their discussion.

ARTICLE III

Section 2. Any person who is desirous of promoting the purposes of this Society is eligible to membership and shall become such on payment of dues as prescribed.

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Section 2. The Board of Directors shall consist of six members of the Society and the Secretary-Treasurer. Only active members who have contributed to the *Yearbooks* shall be eligible to serve as directors.

Section 3. The Board of Directors shall be elected by the Society to serve for three years, beginning on January first after their election. Two members of the Board shall be elected annually (and such additional members as may be necessary to fill vacancies that may have arisen).

This election shall be conducted by an annual mail ballot of all active members of the Society. A primary ballot shall be secured in October in which the active members shall nominate from a list of members eligible to said Board. The names of the six persons receiving the highest number of votes on this primary ballot shall be submitted in November for a second ballot for the election of the two members of the Board. The two

persons (or more in the case of special vacancies) then receiving the highest number of votes shall be declared elected.

Section 4. The Board of Directors shall have general charge of the work of the Society, shall appoint its own Chairman, shall appoint the Secretary-Treasurer, and the members of the Council. It shall have power to fill vacancies within its membership, until a successor shall be elected as prescribed in Section 3.

Section 5. The Council shall consist of the Board of Directors, the chairmen of the Society's Yearbook and Research Committees, and such other active members of the Society as the Board of Directors may appoint from time to time.

Section 6. The function of the Council shall be to further the objects of the Society by assisting the Board of Directors in planning and carrying forward the educational undertakings of the Society.

ARTICLE V

For "Executive Committee," read "Board of Directors."

ARTICLE VI

For "Executive Committee," read "Board of Directors."

After the adoption of these changes in the Constitution, the following subsidiary recommendation was unanimously adopted:

Subsidiary Recommendation

In order to provide continuity of policy and personnel, it is recommended that the present members of the Board of Trustees and of the Executive Committee and the retiring president constitute the Board of Directors for 1924, that is, until the new plan shall go into operation, and that the present Secretary-Treasurer continue in office until the expiration of his present term of appointment.

It is further recommended that on December 31st, 1924, two members of the then Board of Directors (as determined by the Board) shall retire, and similarly, annually, until the full Board of Directors has been elected as provided by the amended constitution.

Attention was called by President Judd to plans for future *Yearbooks*. The statement of these plans already circulated by mail among the active members of the Society is as follows:

PLANS FOR YEARBOOKS

The officers of the Society have prepared (1) a list of accepted *Yearbook* topics, and (2) a list of other *Yearbook* topics under consideration. It is further planned that these lists may be extended by the addition of topics proposed by active members of the Society and also by the inclusion of *Yearbook* material that may have been initiated by other edu-

cational organizations which may seek alliance with this Society for the purpose of publication. This material must, of course, have the sanction of the Board of Directors, and suitable arrangements must be made for the co-operation of the Society's representatives. It is hoped that funds for subsidizing certain of the Society's undertakings may be secured in the form of subventions from various organizations that are devoted to the facilitation of research in education.

1. *Accepted Yearbook Topics*

- I. Methods of Teaching
- II. Individualized Instruction
- III. The Limitations of Training
- IV. The Technique of Curriculum Making
- V. The Education of Gifted Children (continuation of present committee)

2. *Yearbook Topics under Consideration*

- VI. Remedial Training of Speech Defectives in the Public Schools
- VII. Methods of Learning in High-School Subjects
- VIII. Elimination and Retardation (Promotion and Non-Promotion)
- IX. The Psychology and Pedagogy of Special Abilities and Disabilities
- X. Personnel Problems in College Administration
- XI. The Development of Musical Appreciation in the Public School
- XII. The Non-Intellectual (Dynamic) Traits of Personality
- XIII. Studies of the Several School Subjects

Members of the Society who desire to co-operate actively in any of these undertakings are invited to notify the Secretary to that effect. Members who wish to see other topics undertaken are invited to forward to the Secretary detailed statements of such problems, including an outline of the methods by which it is proposed to attack their solution.

On motion of the Secretary, honorary membership was unanimously voted James H. Van Sickle, now of Dade City, Florida, who relinquished the superintendency of schools at Springfield, Massachusetts, August 31, 1923, and who has for many years been actively interested in the welfare of this Society and its undertakings.

On motion of the Secretary, the Society adopted by a unanimous rising vote, the following resolutions:

WHEREAS, death has removed from the National Society for the Study of Education, Stephen S. Colvin, a man who has for many years served the Society as a member of its Executive Committee, as a contributor to its Yearbooks

of thoughtful and stimulating articles, and as an earnest advocate of its professional aims;

BE IT RESOLVED: That this Society, at its annual meeting held at Chicago, February 26, 1924, hereby bears witness to its deep appreciation of Professor Colvin's services to the Society, to its admiration for his rare personal qualifications as a teacher, an investigator, and a leader in educational thought, and to its sense of abiding loss which his death has brought to us, his fellow-workers.

BE IT ALSO RESOLVED: That these resolutions be entered upon the minutes of this meeting, and that a copy of them be sent to Professor Colvin's family.

On motion, the business meeting then adjourned.

The third meeting of the Society, held in the Cameo Room of the Morrison Hotel, Wednesday, February 27th, at 2:15 p. m., was a joint meeting of the Society and the Department of Vocational Education and Practical Arts of the National Education Association. This meeting was devoted to a discussion of Section 2, Part II (Vocational Education for the Industries) of the *Twenty-third Yearbook* of the Society, prepared under the Chairmanship of A. H. Edgerton, and entitled "Vocational Guidance and Vocational Education for the Industries."

President Judd called the meeting to order and, after brief introductory remarks, turned the meeting over to the Chairmanship of Superintendent Greer.

Save for the absence of Mr. Prosser, the following program was given as scheduled:

- I. "PRESENT TRENDS AND FRIENDLY ENEMIES OF INDUSTRIAL EDUCATION."
A. H. Edgerton, Supervisor of Vocational Information and Guidance, Teachers College and the Lincoln School, Columbia University, New York City, New York.
- II. "PROVISIONS FOR INDUSTRIAL EDUCATION IN THE PUBLIC SCHOOLS."
Howard Briggs, Director of Vocational Education, Cleveland, Ohio.
- III. "WHAT IS THE PLACE OF ANALYSIS IN VOCATIONAL CURRICULUM BUILDING?"
Harry D. Kitson, Professor of Psychology, Indiana University, and President of the National Vocational Guidance Association.

- IV. "HOW DOES THE INSTRUCTION IN VOCATIONAL SCHOOLS PROVIDE FOR INDIVIDUAL DIFFERENCES?"
Robert H. Rodgers, Bureau of Vocational Teacher Training, Milwaukee, Wisconsin.
- V. "WHAT METHODS ARE USED FOR TRAINING WORKERS IN INDUSTRY?"
Charles Prosser, Director of William Hood Dunwoody Institute, Minneapolis, Minnesota.
- VI. "WHAT IS THE FUTURE OUTLOOK FOR INDUSTRIAL EDUCATION IN THE UNITED STATES?"
K. G. Smith, State Department of Public Instruction, Lansing, Michigan.

DISCUSSION:

J. G. Collicott, Superintendent of Schools, Columbus, Ohio.
Erwin E. Lewis, Superintendent of Schools, Flint, Michigan.

Dr. Snedden joined Superintendent Collicott and Superintendent Lewis in the discussion.

GUY M. WHIPPLE, *Secretary*.

SYNOPSIS OF THE PROCEEDINGS OF THE BOARD OF DIRECTORS

At the behest of the Board of Directors, the Secretary has prepared the following synopsis, in order that the members of the Society may be informed concerning the acts and policies of those who are directing the Society. The synopsis does not comprise all the business transacted by the Board, since numerous matters of minor importance have been omitted entirely.

FIRST MEETING OF THE BOARD (Cleveland, Ohio, April 13, 1924.)

Those present were: Messrs. Judd, Koos, Lord, Rugg, Whipple.
Those absent were: Messrs. Courtis, Holmes.

(1) In connection with requests from several persons for permission to quote excerpts from the Society's *Yearbooks*, it was voted that in general there should be a liberal policy in granting permission to quote from the *Yearbooks*, but that all persons who quoted material should be asked to give specific reference to author, volume, date, chapter, and page, and, when the excerpts were at all lengthy, to add some statement calling the attention of the reader to the desirability of referring to the original material.

(2) The Secretary and Dr. Judd were appointed representatives on the Council of the A. A. A. S.

(3) A communication from Dr. Chadsey requested that the Society consider the adoption of a resolution favoring the policy on the part of school boards and superintendents of releasing teachers in service from some portion of their ordinary duties when they were engaged in professional undertakings. It was voted that the Directors recommend such a resolution for favorable action at the 1925 meeting, and Dr. Rugg was requested to draw up a resolution for presentation at that time.

(4) A communication from the United States Commissioner of Education having requested the Society to send a representative, if possible, to the Pedagogical Congress to be held at Santiago, Chile, in the summer of 1925, it was voted that the Directors bring the attention of the Society, at its next meeting, to this Congress and

that we offer our credentials to any member that might be able to attend.

(5) The Directors authorized expenditures for 1924-25 (12 months) as follows:

Secretary's Office	\$2,250.00
Printing New Yearbooks.....	4,500.00
Reprinting Various Yearbooks.....	1,700.00
Expenses of Directors' Meetings.....	600.00
Expenses of Yearbook Committees:	
Yearbook on Curriculum.....	800.00
Yearbook on Method.....	500.00
Yearbook on Training.....	700.00
Yearbook on Individual Instruction.....	150.00

(6) W. S. Gray reported satisfactory progress on the part of his Committee on Reading and promised the completed manuscript for publication in 1925.

(7) H. O. Rugg outlined at some length his plans for a *Yearbook* on "The Technique of Curriculum Making" and there was general discussion concerning its contents.

(8) C. W. Washburne was asked to draw up a more extended outline of the *Yearbook* which he had already sketched informally on the subject of "Individual Instruction." He was asked also to present a list of the members of the committee and urged to plan this book for printing in 1926.

(9) The Board went on record as urging Mr. Courtis to push the work on the *Yearbook* dealing with "Methods" as rapidly as possible and appropriated \$500.00 towards the expenses of the committee.

(10) L. M. Terman was asked to report as soon as possible concerning a list of members for a committee, to be headed by himself, to prepare a *Yearbook* on "The Limitations of Training" and a sum not to exceed \$700.00 was allowed for holding an early meeting of this committee.

(11) The committee which had prepared the *Yearbook* on "Gifted Children" under the chairmanship of G. M. Whipple, requested that the committee be continued indefinitely with the hope that after several years it might be possible to present another *Yearbook* supplementing the one prepared by this committee in 1924.

(12) Charles S. Berry having reported that he found it for the present inadvisable to prepare a *Yearbook* on "Special Abilities and Disabilities," the Board voted that no action be taken for the present in connection with this *Yearbook*.

(13) "A Report on Colleges of Liberal Arts," prepared by F. J. Kelly, which had been previously submitted for consideration as a *Yearbook* had since then been given publication in other journals, so this topic was stricken from the list of proposed *Yearbooks*.

(14) The *Yearbook* on "Musical Appreciation" had been suggested by G. M. Whipple, who reported that he was not ready at present to make definite proposals, but wished the topic continued on the list of possible *Yearbooks* for future consideration.

(15) Communications having been received from Ernest Burnham, Norman Frost, and Harold Van Buren concerning the desirability of a *Yearbook* dealing with "Rural Education," Mr. Burnham was requested to submit a more detailed account of such a *Yearbook* for presentation at the fall meeting of the Board.

(16) Communications were read from John L. Horn, of Mills College, suggesting a *Yearbook* on "Speech Defectives." The Board felt that this topic would probably interest a comparatively small number of our readers and would, furthermore, be better undertaken by some other agency than this Society.

(17) Communications from Earle Rugg concerning the desirability of a *Yearbook* dealing with "Extra-Class Activities" were read and discussed. The Directors requested L. V. Koos to communicate with Mr. Rugg and others and to bring to the fall meeting a possible program for this *Yearbook*.

(18) The Secretary reported his correspondence with respect to *Yearbooks* and co-operation in their preparation had with the following persons: F. R. Pauly, L. C. Sears, P. F. Finner, W. T. Sanger, Leo Horst, A. R. Mead, Frances F. Bernard, Mary L. Patrick, E. F. Buchner, Lida B. Earhart, Agnes L. Rogers, Lucia B. Mirrieles, and Edward Rynearson.

The Board expressed its appreciation of the excellent spirit of co-operation shown by these members.

(19) On the basis of the decision made with respect to the foregoing *Yearbooks*, the Directors proposed that certain general prin-

ciples should be regarded as controlling the organization and operation of the *Yearbook* committees in general. These general principles included the following:

(a) All *Yearbooks* must be passed upon and specifically authorized by the Board of Directors before they become official undertakings of the Society.

(b) The chairman of each *Yearbook* committee, having been appointed by the Board of Directors, is expected, as soon thereafter as feasible, to propose to the Board the names of the persons whom he desires to have form the personnel of his committee, and these appointments must have the sanction of the Board to become official.

(c) The chairman may make use of the services of other persons than the authorized committee members, both in consultation and in contributing to the *Yearbook*, but these additional persons are to be regarded as "associates" of the official committee, not as "members" of it.

(d) Funds appropriated for the holding of committee meetings may be used to cover the travelling expenses of committee members, but not of associates.

(e) The Society will not be liable for expenses incurred by committee chairmen in excess of the amounts specified for each committee by the Board of Directors.

(f) Committee chairmen are expected to use reasonable care to arrange their committee meetings with respect to number, time, and place in such a way as to conserve the financial resources of the Society.

(g) Each committee chairman is to present to the Board of Directors at its annual fall meeting a report of progress upon the work going on under his direction.

(h) Every effort should be made to present at the fall meeting of the Board of Directors (to be held on or about October 1st whenever possible) as complete a formulation as possible of any *Yearbook* which it is proposed to publish for the meeting of the Society to be held the February following.

(20) C. H. Judd was unanimously elected Chairman of the Board of Directors, to serve until December 31, 1924.

(21) C. H. Judd and H. W. Holmes were selected as the two

members to retire December 31, 1924—retiring members being, under the Constitution, eligible for re-election.

(22) The Secretary was requested to present at the fall meeting arguments for and against the continuance of the present forms of membership.

SECOND MEETING OF THE BOARD

(Chicago, Illinois, November 8, 1924.)

Present: Messrs, Courtis, Holmes, Judd, Koos, Lord, Rugg, Whipple.

(1) The "Announcement," as proposed for printing by the Secretary, was approved.

(2) A request for rates for advertising space in the *Yearbook* was received. The Directors approved the reply which had been made by the Secretary to the effect that advertising, except for the list of the Society's own publications, was contrary to precedent and to the spirit of the Society's *Yearbooks*.

(3) Correspondence was submitted between the Chairman and Secretary of the Board and officials of Section Q of the A. A. A. S. The Board endorsed the position taken by its representatives to the effect that it seemed undesirable to arrange for a formal meeting of this Society in December in affiliation with Section Q.

(4) It was voted that the list of active members to be printed in the *Yearbook* should hereafter be made up of active members of the Society as of December 31st of the preceding year, rather than limit it to those who had at that time paid their dues in advance for the following year.

(5) The Secretary and H. W. Holmes were made a committee with power to arrange a contract with the Atlantic Printing Company for the printing of the 1925 *Yearbooks*.

(6) It was voted to enter on the minutes as a matter of record, the Secretary's statement concerning progress being made in developing his office to a point where it might operate independently of any connection with institutions to which he might be attached. The Secretary's report also showed that the time expended by him upon the Society's business averaged more than ten hours a week.

(7) It was voted that the budget for each calendar year be voted

at the fall meeting preceding that year; also that as a matter of policy, funds appropriated for a budget are to be regarded as charges against the Society—that is, as not available for any other activity than the one for which they have been appropriated.

(8) It was estimated that \$3,850.00 was already committed as possible expenditures prior to January 1, 1925, of which amount \$2,200.00 was still tied up in the form of appropriations made to *Yearbook* committees. In addition, the following budget was voted for 1925:

For the Secretary's Office.....	\$2,500.00
For Meetings of the Board of Directors.....	1,320.00
For Printing and Distributing <i>Yearbooks</i>	8,500.00
For further expenses of <i>Yearbook Committees</i>	850.00

(9) It was voted not to include in the final ballot, to be mailed to the active members for the election of two members of the Board, any statements concerning the professional activities of the persons named in the ballot. It was also voted that the signatures of active members be not required in returning these ballots.

(10) Correspondence was reported by the Secretary dealing with the protests which had been made concerning the policy of the Society in the election of its Board of Directors. The Board voted unanimously that no further action need be taken concerning the matter raised in this correspondence.

(11) On the basis of a summary of the arguments for and against continuing the present forms of membership, it was unanimously voted that no change be made in these forms, but that so far as possible the desirability of active membership be increased by offering to active members various types of service and opportunities in addition to the privileges they already enjoy.

(12) C. W. Washburne submitted a typewritten outline of a *Yearbook* on "Adapting the Schools to Individual Differences." The Board authorized the publication of this *Yearbook* in 1925 and appropriated not to exceed \$200.00 (in place of the \$150.00 previously appropriated) for the expenses of preparing this *Yearbook* for publication. It was further voted that in arranging the program for this *Yearbook* an effort be made to secure 30 minutes of free discussion from the floor, and that a summary of the salient con-

tentions of the *Yearbook* be mailed in November to active members of the Society for the purpose of stimulating this discussion.

(13) W. S. Gray submitted an outline of the *Yearbook* on "Reading." It was voted that this be printed in 1925 and that a similar effort be made, as in the case of the foregoing *Yearbook*, to secure active discussion of its contents from the floor at the annual meeting.

(14) H. O. Rugg reported progress made by the committee of which he is chairman, in preparation of a *Yearbook* on the "Technique of Curriculum Making," and similar reports were made for their respective committees by Messrs. Courtis, Terman, and Koos. (Statements concerning these *Yearbooks* appear elsewhere in this volume.)

The Board appropriated a sum not to exceed \$800.00 for the use of the Committee on "Extra-Class Activities" with the expectation that this *Yearbook* would be ready for printing in 1927.

(15) Correspondence was read by C. H. Judd and Miss Hoefer concerning the possibility of a *Yearbook* dealing with "Health Education." It was voted that in view of our present commitments and of the numerous agencies that might better undertake the assembling of material on this topic, that we should not undertake a *Yearbook* on "Health Education."

(16) A proposal from Mr. Gary Myers suggesting a *Yearbook* on "The Prevention of Errors" was acted upon similarly to the foregoing proposal.

(17) The Secretary suggested that a *Yearbook* on "Mental Hygiene and the Schools" ought to meet a ready reception, and outlined his ideas of its contents. The Secretary was requested to communicate with various persons and report at the next meeting of the Board concerning the feasibility of such a *Yearbook*.

(18) It was voted that the next meeting of the Directors be held Saturday, February 1, 1925, in connection with the session of the National Education Association, and that there be a regular meeting in the fall, in October or November. The decision as to whether there should also be a meeting in May was deferred to the February meeting.

(19) It was voted that the Chairman of each *Yearbook* com-

mittee be asked to report at each fall meeting, showing the progress of his committee during the past year and citing its needs for the ensuing year.

(20) It was voted that the clerical expenses of committees be regarded as a legitimate charge against the appropriation of these committees, in addition to the travelling expenses incurred in holding meetings of the committees.

(21) In view of a suggestion that one of the *Yearbooks* be dedicated to an individual, it was unanimously voted that, as a matter of policy, the Board does not favor the adoption of this suggestion.

(22) C. H. Judd was requested by the Board to prepare, for presentation at the February meeting, resolutions on the death of S. C. Parker, who had been prominently connected with the Society for many years.

(23) It was voted that the selection of the presiding officers for the February meeting be left to C. H. Judd, with power.

REPORTS ON YEARBOOKS IN PREPARATION

In order that members of the Society may be informed concerning the activities that are in progress in the preparation of forthcoming *Yearbooks*, the chairman of each of the committees now definitely under way has been requested by the Board of Directors to present brief reports to indicate the purpose and scope of his *Yearbook*, the method of procedure that is being followed, and the progress that has been made. Members of the Society are once more urged to communicate freely with these chairmen upon any of the matters here set forth, to the end of making each *Yearbook* a truly co-operative undertaking.

I

THE YEARBOOK ON "THE TECHNIQUE OF CURRICULUM-MAKING"*

Chairman: Dr. Harold O. Rugg, The Lincoln School of Teachers College, New York City.

The committee in charge of the preparation of this *Yearbook*, which is expected for publication in 1926, consists of Messrs. Franklin Bobbitt, F. G. Bonser, W. W. Charters, Ernest Horn, W. H. Kilpatrick, and Harold Rugg, chairman. A meeting of some members of the committee was held in April, and of others of the committee in September, 1924.

The intention of the committee is to put forth a critical study, frankly theoretical, organized around a series of moot questions. The assembling of previous research studies on the curriculum was originally contemplated, but is now abandoned because this has now been done by the Curriculum Commission of the National Education Association. An account may, however, be included of actual curriculum-making now going on in public school systems. The introductory material will include some discussion of the strategic importance of the curriculum, an account of the scientific movement in curriculum-making and the contribution of the "free-school" movement. The body of the *Yearbook*, however, will center upon the "how" of curriculum-making—how objectives shall be

* In the absence of any statement from the Chairman, this account has been prepared by the Secretary on the basis of notes taken of a statement by Dr. Rugg to the Board of Directors.

determined, how materials shall be selected, how modes of organization shall be determined, and how the grade-placement of materials shall be determined. An annotated bibliography will be prepared.

II

THE YEARBOOK ON "METHODS OF MEASURING THE EFFICIENCY OF TEACHING"

Chairman: Stuart A. Courtis, School of Education, University of Michigan, Ann Arbor, Michigan.

The advances made possible by the scientific study of educational problems have served to direct the attention of certain groups of educational workers to method in a new way. On the basis of certain evidence, the hypothesis has been formulated that "the value of what a child learns is determined almost completely by the way he learns it;" that is, by the method of teaching employed. The 'new' education, which throughout the world is winning advocates at an astonishingly rapid rate, is characterized by changes in classroom procedure far more radical than those in subject matter. If the claims made for the effect of method should prove to be well founded, then as revolutionary a transformation is likely to take place in education as took place when astrology changed to astronomy and alchemy to chemistry. The problem of method would, for our age, become the crucial problem in education.

The committee having this *Yearbook* in charge proposes to determine the validity of the fundamental hypothesis quoted above. The problem resolves itself into two parts, each of which should result in a yearbook. The first need is for reliable means of determining the method of teaching being used by a teacher and the degree of skill with which it is used. The second need is for reliable means of measuring the various aspects of the effects produced and thus determining the efficiency of the teaching from the various points of view.

The law of the single variable demands that, in the final measurement of comparative efficiency, method be the only variable factor. This means that teachers using different methods must be of comparable degrees of skill in the control of their method. It means also

the clear recognition of a fact, too often ignored in educational experimentation, that the product of teaching effort has many aspects and that no measurement of comparative efficiency is valid which does not include comparison of the effects produced in all the significant aspects.

Specifically, the work of the committee will consist of the following:

1. Determination of the significant objective characteristics of the various methods of teaching (question-and-answer method, project, problem, lecture method, etc.) and of methods of analysis, classification, and identification.
2. Construction of scales for the measurement of teachers' skill in the use of the various methods.
3. Determination of the significant products of teaching effort (as for a particular lesson in arithmetic, knowledge of how to add fractions, skill in adding fractions, initiative to use the skill in appropriate life situations, etc.).
4. Construction of valid tests for the measurement of each of the significant products.
5. Measurement of the comparative efficiency of the various methods of teaching in terms of the products determined upon.
6. Evaluation of results from the point of view of the determination of the contributions of method to results.

The various phases of the work of the committee differ greatly in their difficulty and in the time that will be required to complete them. The first step is comparatively simple. The second is only slightly more difficult. It is expected that these parts of the committee's work will be ready for publication in 1926. The third, fourth, and fifth steps call for the solution of many puzzling problems, and while the committee hopes to have further results to report by 1927, no definite time can be set at present for the completion of the entire labors of the committee.

All persons willing to co-operate with the committee by attempting objective definition and analysis of teaching procedure or by reporting actual observation of lessons under the conditions laid down by the committee are requested to write to the chairman, describing the type of assistance they are willing to render.

III

THE YEAREOOK ON THE "POSSIBILITIES AND LIMITATIONS OF TRAINING"

Chairman: Dr. Lewis M. Terman, Stanford University,
California

The committee on the 1927 *Yearbook*, consisting of Bagley, Baldwin, Brigham, Freeman, Pintner, Whipple, and Terman (chairman), met at Chicago on November 9, 1924, and outlined its program of work. This *Yearbook* will be devoted entirely to investigations on the *Possibilities and Limitations of Training*. It is the ancient question of nature *versus* nurture, with special reference to their influence upon the scores earned in intelligence and achievement tests. The committee regards most of the studies which have been made in this field as ambiguous and believes that the problem should be taken up anew in investigations which would be more conclusive.

The issues involved are of such fundamental importance in education that the committee hopes it may be possible to enlist the co-operation of many investigators. The paragraphs which follow indicate types of experiments that might be expected to throw light on the problem. The list is not intended to be exhaustive. Perhaps other lines of attack, even more promising, will be found. Minor studies can be published in the *Yearbook* in full. More extensive investigations could be published separately in monograph or book form and be merely summarized in the *Yearbook*. Manuscript for the 1927 *Yearbook* should reach the chairman by September 1, 1926.

1. Freeman and Terman have secured a grant from the Commonwealth Fund for a co-operative study of adopted children. Freeman will compare the mental resemblance between adopted children and their true sibs with that obtaining between adopted children and their foster sibs. Terman will compare true parent-true child resemblance with foster parent-adopted child resemblance. Both Freeman and Terman will welcome the co-operation of other investigators. Terman is using only foster children who were adopted in the first year of life by persons who had no knowledge of their heredity.

2. Studies should be made of the effect on achievement and intelligence scores of intensive training in the school subjects or in mind-training exercises. Groups thus trained for 6 to 12 months should be compared with control groups of equal ability at the beginning.

3. Intelligence tests should be given to relatively uneducated groups of children and followed by re-tests of the children after they have been subjected to good educational influences. Children entering school from exceptionally ignorant homes might be given B-S tests at school entrance and again after a year of schooling. Children adopted from poor homes into good homes might be followed up and retested. In all such experiments children of foreign parentage should be excluded.

4. Detailed clinical studies should be made of the results of special tutoring of individual cases of low I.Q. It is, of course, important that the progress made by such cases be rigidly checked up by objective methods.

5. Studies should be made of the success with which children of given mental ages can be taught material commonly considered too advanced for those mental ages. Examples: reading at mental age 4, multiplication table at mental age 6, fractions at mental age 6 or 7, map reading at mental age 7, "lessons" from fables or stories at mental age 8, reversing hands of clock at mental age 9, etc. Obviously, there is room for any number of experiments in this line.

6. It is extremely desirable to compare the relative influence on pupils' intelligence and achievement scores of such factors as (a) teacher training, teacher expertness, teacher salary schedules, teacher experience, etc., and (b) mental age of the pupils.

7. Studies should be made of the relative influence of mental age and length of school attendance upon achievement as measured by reliable and valid educational tests. Among 1000 ten-year-olds (excluding children of foreign parents) the length of school attendance would probably range from a few months to 50 months. To what extent do their achievement test scores depend upon attendance and to what extent upon Binet mental age? By utilizing the method of partial correlation to render constant the factor of age, it would be feasible to use children covering a wide range of ages. It may be pointed out that in making comparisons of this kind

most of the group intelligence tests are unsatisfactory because of too close similarity to the achievement tests.

8. The effects of improved nutrition upon intelligence and achievement scores should be measured. Similarly, the effects of operations and corrective work with crippled or sickly children.

9. Conclusive investigations should be made of the extent to which such musical abilities as pitch discrimination and sense of rhythm can be improved by training. Seashore has promised a contribution in this line.

10. In several types of investigations of the relative influence of endowment and training it is necessary to have a quantitative rating of the cultural status of the child's home. No satisfactory rating scale for this purpose exists. It is hoped that someone will undertake to complete one before December, 1925, or at latest before September, 1926.

11. There is another type of investigation that would be desirable, namely, teaching various bits of skill or knowledge to children of different mental ages and noting the amount of time required to attain a given degree of mastery at each mental age. Examples: learning new names for a list of common objects, to repeat the Greek alphabet, to use the Roman numerals, to say the alphabet backwards, to extract square root or cube root, to copy a diamond or other geometrical design, to tie a bow knot, to write codes, to tell time by the clock, to grasp the solution of a puzzle when shown, etc. Such experiments, although they would not afford direct evidence on the nature-nurture problem, would throw considerable light on the extent to which mental age classifications are desirable for purposes of instruction.

In order to avoid duplication of effort, those who are willing to undertake an investigation for this Yearbook should communicate with the chairman of the committee. Among those who have already promised are Seashore, Kelley, Mrs. L. S. Hollingworth, Franzen, and Ruch. It is hoped that many others will volunteer.

IV

THE YEARBOOK ON "EXTRA-CLASS ACTIVITIES"

Chairman: Professor Leonard V. Koos, University of Minnesota,
Minneapolis, Minnesota.

Among the aspects of school life, especially in our secondary schools, which have come in for increasing attention in recent years, are what are commonly referred to as "extra-curricular activities," *e. g.*, athletics, dramatics, debating, musical organizations, general organization of the pupil body, student councils, etc. In many places the amount of the pupils' time and energy devoted to them has been rapidly increasing, in some instances owing to what is intended to be constructive encouragement by teachers and school heads. In view of the dearth of materials helpful to those desirous of encouraging proper development in this field, the Society is fostering the assembly and publication, not later than 1927, of a yearbook devoted exclusively to problems falling under this main head. Those who have had opportunities to secure special information or experiences in this field should communicate with the chairman as soon after reading this announcement as possible.

PUBLICATIONS OF THE NATIONAL HERBART SOCIETY

(Now the National Society for the Study of Education)

	Postpaid Price
First Yearbook, 1895.....	\$0.79
First Supplement to First Yearbook.....	.28
Second Supplement to First Yearbook.....	.27
Second Yearbook, 1896.....	.85
Supplement to Second Yearbook.....	.27
Third Yearbook, 1897.....	.85
Note—Ethical Principles Underlying Education, John Dewey. Reprinted from Third Yearbook.....	
Supplement to Third Yearbook.....	.27
Fourth Yearbook, 1898.....	.79
Supplement to Fourth Yearbook.....	.28
Fifth Yearbook, 1899.....	.79
Supplement to Fifth Yearbook.....	.54

PUBLICATIONS OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

	Postpaid Price
First Yearbook, 1902, Part I—Some Principles in the Teaching of History. Lucy M. Salmon.....	\$0.54
First Yearbook, 1902, Part II—The Progress of Geography in the Schools. W. M. Davis and H. M. Wilson.....	.53
Second Yearbook, 1903, Part I—The Course of Study in History in the Common School. Isabel Lawrence, C. A. McMurry, Frank McMurry, E. C. Page, and E. J. Rice.....	.53
Second Yearbook, 1903, Part II—The Relation of Theory to Practice in Educa- tion. M. J. Holmes, J. A. Keith, and Levi Seeley.....	.53
Third Yearbook, 1904, Part I—The Relation of Theory to Practice in the Educa- tion of Teachers. John Dewey, Sarah C. Brooks, F. M. McMurry, <i>et al.</i>53
Third Yearbook, 1904, Part II—Nature Study. W. S. Jackman.....	.85
Fourth Yearbook, 1905, Part I—The Education and Training of Secondary Teach- ers. E. C. Elliott, E. G. Dexter, M. J. Holmes, <i>et al.</i>85
Fourth Yearbook, 1905, Part II—The Place of Vocational Subjects in the High- School Curriculum. J. S. Brown, G. B. Morrison, and Ellen H. Richards..	.53
Fifth Yearbook, 1906, Part I—On the Teaching of English in Elementary and High Schools. G. P. Brown and Emerson Davis.....	.53
Fifth Yearbook, 1906, Part II—The Certification of Teachers. E. P. Cubberley	.64
Sixth Yearbook, 1907, Part I—Vocational Studies for College Entrance. C. A. Herrick, H. W. Holmes, T. de Laguna, V. Prettyman, and W. J. S. Bryan	.70
Sixth Yearbook, 1907, Part II—The Kindergarten and Its Relation to Elementary Education. Ada Van Stone Harris, E. A. Kirkpatrick, Maria Kraus-Boelté, Patty S. Hill, Harriette M. Mills, and Nina Vandewalker.....	.70
Seventh Yearbook, 1908, Part I—The Relation of Superintendents and Principals to the Training and Professional Improvement of their Teachers. Charles D. Lowry.....	.78
Seventh Yearbook, 1908, Part II—The Co-ordination of the Kindergarten and the Elementary School. B. J. Gregory, Jennie B. Merrill, Bertha Payne, Margaret Giddings.....	.78
Eighth Yearbook, 1909, Parts I and II—Education with Reference to Sex. C. R. Henderson and Helen C. Putnam. Both parts.....	1.60
Ninth Yearbook, 1910, Part I—Health and Education. T. D. Wood.....	.85
Ninth Yearbook, 1910, Part II—The Nurse in Education. T. D. Wood, <i>et al.</i>78
Tenth Yearbook, 1911, Part I—The City School as a Community Center. H. C. Leipziger, Sarah E. Hyre, R. D. Warden, C. Ward Crampton, E. W. Stitt, E. J. Ward, Mrs. E. C. Grice, C. A. Perry.....	.78
Tenth Yearbook, 1911, Part II—The Rural School as a Community Center. B. H. Crocheron, Jessie Field, F. W. Howe, E. C. Bishop, A. B. Graham, O. J. Kern, M. T. Scudder, B. M. Davis.....	.79
Price for Yearbooks VI to X inclusive, 8 vo. cloth.....	5.00
Eleventh Yearbook, 1912, Part I—Industrial Education: Typical Experiments Described and Interpreted. J. F. Barker, M. Bloomfield, B. W. Johnson, P. Johnston, L. M. Leavitt, G. A. Mirick, M. W. Murray, C. F. Perry, A. L. Safford, and H. B. Wilson.....	.85
Eleventh Yearbook, 1912, Part II—Agricultural Education in Secondary Schools. A. C. Monahan, R. W. Stimson, D. J. Crosby, W. H. French, H. F. Button, F. R. Crane, W. R. Hart, G. F. Warren.....	.85

BOUND VOLUMES
OF
THE YEARBOOKS OF THE SOCIETY
I-XXIX

The yearbooks of the National Society for the Study of Education form the outstanding feature of its activities. In the earlier days of the Society these publications were comparatively small in size, though not in importance of their topics or in authoritative-ness of their producers. From the first, the policy was adopted of issuing the yearbooks in advance of the meeting at which they were to be discussed. As long as the membership of the Society was limited to a small group of active participants, the annual meetings were perhaps of even more importance than the printed material which formed the subject matter for discussion. But as the Society's membership increased and as the number of non-members attracted to its meetings also increased, the difficulty of holding these intimate discussions likewise increased, the meetings gradually shifted in character, so that the formal presentation of addresses came to assume more, and the discussions less importance—a change which many members deplored, but which it has seemed impossible to avoid. At the same time, the commercial sales of yearbooks not distributed to members in return for their dues correspondingly increased and gradually affected the functions of the Society in ways that could hardly have been foreseen at the outset. More particularly, the financial returns from the sales of its yearbooks have produced for the Society a source of income which has increased like the proverbial snowball, and which has brought it about that the Society is to-day in some respects more nearly a publishing society than a society for the holding of meetings and discussion of educational topics. In other words, the production and distribution of its yearbooks, rather than the holding of its annual meetings, has come to be the chief method by which the Society is now influencing the trend of educational thinking and practice. As will be seen by a glance at the statements given in the annual reports of the Secretary, the sums now available to the Society from the sale of its yearbooks have reached very considerable proportions. The policy of the officers of the Society has been consistently to return these profits to the members of the Society,

partly by issuing yearbooks that often cost most to deliver to its members than the dues received in return, partly by subsidizing more effectively the work of the various committees that are at work upon the production of forthcoming yearbooks.

All in all, then, the yearbooks of the National Society for the Study of Education are in many respects a feature unique among educational organizations. As to their intrinsic worth as educational documents, there need be no argument; their ready sale, the repeated requests for permission to quote from their pages, and the numerous enthusiastic unsolicited endorsements from our members are sufficient testimony.

SUMMARY OF YEARBOOKS I-XXIX

The following is a list of the fifty-six books published to date (1930) together with the names of the contributors and a brief synopsis of the contents of each book. Perusal of this summary will show the scope and importance of the Society's publications.

VOLUME ONE

THE FIRST YEARBOOK, PART I (1902)

SOME PRINCIPLES IN THE TEACHING OF HISTORY

Lucy M. Salmon

This first yearbook of the Society is a concise and stimulating discussion of the principles underlying the teaching of history. The author devotes various sections of the paper to a discussion of the place of the sources in the school course, the historian in relation to the selection of materials, the relation of history to other subjects, and changes in the methods of teaching it. The concluding section gives an outline of the history recommended for use in the twelve grades.

THE FIRST YEARBOOK, PART II (1902)

THE PROGRESS OF GEOGRAPHY IN THE SCHOOLS

W. M. Davis and H. M. Wilson

Some of the best principles which govern the teaching of geography to-day are set forth in this early yearbook of the Society. Mr. Davis, the author of the major portion of the volume, deplors the deficiency of higher learning in the field, urges better training of teachers in the subject matter, stresses the need of subordinating detailed items to general principles, points out the importance of showing causal relations in teaching the subject, and advocates better and more extensive use of equipment of geographical laboratories. Some space is devoted to a discussion of ontography, systematic and regional physi-

ography, and systematic and regional geography, with brief reference to their places in the curriculum. The concluding chapter, by Mr. Wilson, discusses the relation of geography to the sciences.

THE SECOND YEARBOOK, PART I (1903)

THE COURSE OF STUDY IN HISTORY IN THE COMMON SCHOOLS

Isabel Lawrence, Charles A. McMurry, Frank McMurry,
Edward C. Page, and Emily J. Rice

The major portion of this yearbook is devoted to a course of study in history for grades three to eight inclusive, prepared by Charles A. McMurry. Particular recognition is given to the intimate relation between history and reading and geography. A brief course in geography is outlined for use with the subject matter in history and reading. The final chapters of the volume are a series of interesting papers discussing Miss Salmon's presentation of the principles of teaching history, which appeared as Part I of the First Yearbook.

THE SECOND YEARBOOK, PART II (1903)

THE RELATION OF THEORY TO PRACTICE IN EDUCATION

David Felmley, Manfred J. Holmes, John A. Keith, and Levi Seeley

Under the chairmanship of John A. Keith, a committee of the Society undertook a careful study of the relation of theory to practice in education in (a) universities, (b) normal schools, and (c) city training schools. The plans of the committee embraced a historical account of earlier procedure in each of these types of institutions, an account of contemporary procedure, an investigation of the most effective relation of theory to practice under various forms of institutional organization, and a study of the relative values and essentials of some nine fields of subject matter offered in those institutions. This yearbook is devoted largely to the Committee's report on the situation in the normal schools.

THE THIRD YEARBOOK, PART I (1904)

THE RELATION OF THEORY TO PRACTICE IN THE EDUCATION OF TEACHERS

Sarah C. Brooks, John Dewey, C. H. Farnsworth, F. M. McMurry,
G. R. Richards, D. E. Smith, and T. D. Wood

This yearbook consists of three sections: (1) a paper by John Dewey, entitled "The Relation of Theory to Practice in Education," (2) further treatment of the same topic in a paper by Sarah C. Brooks, and (3) a description of the "Theory and Practice at Teachers College, Columbia University" by the remaining contributors. The secretary's report, referring to the meeting at which this yearbook was discussed, states: "The entire time was devoted to the discussion of Dr. John Dewey's paper. . . . This paper stirred up a good deal of vigorous thinking and provoked a great deal of highly valuable discussion." Dr. Dewey pointed out the artificiality of the conditions under which so-called practice is secured in those situations where young teachers gain

their experience by taking immediate control of a room under the observation of a superior supervisory officer. As a substitute for this method, he proposed that while the student was acquiring his knowledge of subject matter, theory, and principles, he should devote long periods to the observation of both skilled teachers and children at work in the classroom. This was to be followed by an assistantship to the teacher, which should lead gradually to experience in actual teaching.

THE THIRD YEARBOOK, PART II (1904)

NATURE STUDY

Wilbur S. Jackman

The author of this yearbook has three objects in mind: to show (1) that nature study must be presented in accordance with the general principles of psychology which apply to all other subjects; (2) that it is necessary to start with broad, general views or pictures of nature and proceed gradually to the details; and (3) that nature study forms but a part of education, since its relationships reach into all other subjects which go to make up the whole. He suggests salient centers of subject matter and points out principles of method, carrying through the whole a due regard for the needs of the young and growing mind. The book is illustrated and contains a suggestive course of study.

THE FOURTH YEARBOOK, PART I (1905)

THE EDUCATION AND TRAINING OF SECONDARY TEACHERS

S. D. Brooks, J. F. Brown, J. S. Brown, C. DeGarmo, E. G. Dexter, E. C. Elliott,
C. B. Gilbert, G. S. Hall, R. P. Halleck, M. J. Holmes, E. J. James,
L. H. Jones, L. C. Lord, A. F. Nightingale, M. V. O'Shea,
H. H. Seerley, C. C. Van Liew, and J. N. Wilkinson

The two central problems of this yearbook are: (1) What constitutes the ideal secondary teacher?; and (2) By what selective process and preparation can the realization of this ideal be promoted? These problems are considered under five divisions: (1) an historical sketch, which seeks to trace briefly the genesis of secondary schools in their relation to the life of the people; (2) a presentation of the opinions of five experienced secondary-school men as to what constitutes the ideal secondary-school teacher; (3) an examination of the status and personnel of secondary teachers in the United States; (4) a survey of the provisions for the preparation of secondary-school teachers made by universities, normal schools, and colleges; and (5) a consensus of opinion as to the relative advantages and limitations of universities and normal schools in preparing secondary-school teachers.

THE FOURTH YEARBOOK, PART II (1905)

THE PLACE OF VOCATIONAL SUBJECTS IN THE HIGH-SCHOOL CURRICULUM

J. Stanley Brown, Gilbert B. Morrison, and Ellen H. Richards

Three main groups of vocational studies have been treated in this yearbook: commercial work, manual training, and domestic science. These topics

are discussed in relation to their then present status, and their possibilities for future development. The concluding chapters of the book are devoted to a discussion of Part I of the Fourth Yearbook.

VOLUME TWO

THE FIFTH YEARBOOK, PART I (1906)

ON THE TEACHING OF ENGLISH IN ELEMENTARY AND HIGH SCHOOLS

George P. Brown and Emerson Davis

This yearbook opens with a theoretical dissertation on what Mr. Brown considers the philosophical background for the efficient teaching of English. From this he proceeds to a more practical discussion of methods of teaching English in the primary and grammar grades and in the high school. The latter part of the book describes the course of study in English in the primary grades of the public schools of Cleveland.

THE FIFTH YEARBOOK, PART II (1906)

THE CERTIFICATION OF TEACHERS

Ellwood P. Cubberley

This yearbook sets forth in some detail the conditions prevailing in 1906 with reference to the certification of teachers, traces the development of certain tendencies relating to the problem, and offers suggestions as to lines along which improvement might be made.

THE SIXTH YEARBOOK, PART I (1907)

VOCATIONAL STUDIES FOR COLLEGE ENTRANCE

W. J. S. Bryan, C. A. Herrick, H. W. Holmes, T. de Laguna, and
V. Prettyman

Continuing the discussion begun in Part II of the Fourth Yearbook, this yearbook takes up those aspects of vocational subjects relating to college entrance.

THE SIXTH YEARBOOK, PART II (1907)

THE KINDERGARTEN AND ITS RELATION TO ELEMENTARY EDUCATION

Ada Van Stone Harris, Patty S. Hill, E. A. Kirkpatrick, Maria Krause-Boelté,
Harriette M. Mills, and Nina C. Vandewalker

This yearbook is devoted to an investigation of the relation between the kindergarten and elementary school. It was undertaken in order to further the effort to establish the kindergarten more firmly as a part of the public-school system by bridging the chasm which existed between it and the primary grades. It contains a résumé of Froebelian principles, a presentation of both the conservative and the progressive phases of kindergarten education, the history of kindergarten influence in elementary education, and a discussion of the evolution of the kindergarten program.

THE SEVENTH YEARBOOK, PART I (1908)

THE RELATION OF SUPERINTENDENTS AND PRINCIPALS TO THE TRAINING AND PROFESSIONAL IMPROVEMENT OF THEIR TEACHERS

Charles D. Lowry

This yearbook is largely a summary of replies to a questionnaire sent to members of the Society and others, asking (1) for opinions as to the need for carrying on systematic work for training the teaching force to a higher degree of efficiency, and (2) for statements of the nature of such work in those schools in which it was carried on. The replies pointed to the conclusion that the greatest essential for a teacher's life and growth is vigorous, systematic study, preferably in courses under the direction of higher institutions of learning. Various plans for attaining this result are presented in this volume.

THE SEVENTH YEARBOOK, PART II (1908)

THE COÖRDINATION OF THE KINDERGARTEN AND THE ELEMENTARY SCHOOL

Margaret Giddings, B. C. Gregory, Jennie B. Merrill, and Bertha Payne

"Supplement to Sixth Yearbook, Part II" is the secondary title of this yearbook. Following the somewhat theoretical discussion of the problem set forth in the earlier yearbook, this one attacks the more practical consideration of how to coördinate the work of the kindergarten and the school. It discusses ways and means of securing organic continuity between the two, shows how the right training of teachers may further the work of coördination, and sets forth the relation of supervision to the question at issue.

THE EIGHTH YEARBOOK, PART I (1909)

EDUCATION WITH REFERENCE TO SEX: PATHOLOGICAL, ECONOMIC, AND SOCIAL ASPECTS

Charles Richmond Henderson

THE EIGHTH YEARBOOK, PART II (1909)

EDUCATION WITH REFERENCE TO SEX: AGENCIES AND METHODS

Charles Richmond Henderson and Helen C. Putnam

The two parts of the Eighth Yearbook are meant to be considered as a single study. In Part I of the study evidence, drawn from the testimonies and experiences of well-known physicians and social hygienists, is offered to reveal the urgent need for instructing youth in sex hygiene. Part II gives practical suggestions to parents and teachers regarding formal instruction in matters of sex. The study concludes with a helpful paper by Dr. Putnam, entitled "Sex Instruction in the Schools," which is devoted chiefly to showing how this instruction may be presented in the school naturally and wholesomely in connection with biology.

VOLUME THREE

THE NINTH YEARBOOK, PART I (1910)

HEALTH AND EDUCATION

Thomas Denison Wood

A brief synopsis is given in this yearbook of the different phases of educational administration, supervision, and instruction which have to do with health. It treats of health examinations, school sanitation, the hygiene of instruction, health instruction, and physical education. A helpful bibliography concludes the volume.

THE NINTH YEARBOOK, PART II (1910)

THE NURSE IN EDUCATION

M. Adeline Nutting, Mary L. Read, Isabel M. Stewart, and Thomas D. Wood

Supplementing the discussion in Part I, this volume is devoted to the rôle in education of the professionally trained nurse. It presents some of the important results attained in this field, outlines the scope and possibilities of the work, suggests the relationship of the nurse to the community, and indicates the coördination of the nurse's work with that of parent, regular teacher, school physician, teacher of physical education, and other special teachers whose particular subjects bring them into relation with the health side of education.

THE TENTH YEARBOOK, PART I (1911)

THE CITY SCHOOL AS A COMMUNITY CENTER

C. W. Crampton, Mrs. E. C. Grice, Mrs. S. E. Hyre, H. C. Leipziger,
C. A. Perry, E. W. Stitt, E. J. Ward, and R. D. Warden

The contributors to this volume have described in a concrete way the extent and character of experiments carried on under their direction for making the school a community center. They include in their discussion methods employed, results secured, concrete incidents, difficulties, criticisms, and suggestions encountered in their experiments, together with comparisons of similar work conducted in other communities.

THE TENTH YEARBOOK, PART II (1911)

THE RURAL SCHOOL AS A COMMUNITY CENTER

E. C. Bishop, B. H. Crocheron, B. M. Davis, Jessie Field, A. B. Graham,
F. W. Howe, O. J. Kern, and M. T. Scudder

This volume supplements Part I, and treats in a similar manner the problems and considerations involved in making the rural school a community center. It concludes with a bibliography on city and rural schools as social centers.

THE ELEVENTH YEARBOOK, PART I (1912)

INDUSTRIAL EDUCATION: TYPICAL EXPERIMENTS DESCRIBED AND INTERPRETED

J. F. Barker, M. Bloomfield, B. W. Johnson, P. Johnston, L. M. Leavitt,
G. A. Mirick, M. W. Murray, C. F. Perry, A. L. Safford,
and H. B. Wilson

In this yearbook an attempt is made to bring together accounts of actual progress made in organizing schools for industrial education, to interpret the various lines of experimentation undertaken, and to demonstrate practical possibilities. Each contributor was requested to describe the history, organization, and results of industrial education in his school, to compare his with other schools of the same type, and to show how his particular type of undertaking might contribute toward the whole problem of industrial education. (See the Twenty-Third Yearbook, Part II, for further treatment of this topic.)

THE ELEVENTH YEARBOOK, PART II (1912)

AGRICULTURAL EDUCATION IN SECONDARY SCHOOLS

H. F. Button, F. R. Crance, D. J. Crosby, W. H. French, W. R. Hart,
A. C. Monahan, R. W. Stimson, and G. F. Warren

The aim of this yearbook was to present accounts of what was actually being done in secondary agricultural training in various parts of the United States at the time it was prepared. It represents an analysis of the typical experiments which were under way at that time, and gives some interpretation of each plan and its results.

THE TWELFTH YEARBOOK, PART I (1913)

THE SUPERVISION OF CITY SCHOOLS

Franklin Bobbitt, John W. Hall, and J. D. Wolcott

Professor Bobbitt, who contributes the major portion of this yearbook, treats the question of supervision under seven main heads, the most important of which are: the need for definite standards of achievement (with special reference to achievement tests); the necessity of determining under actual conditions the most efficient methods for actual service, and then insisting upon them; the importance of standard qualifications for teachers, with some account of a rating scale; the need for standard preliminary training of teachers; the need for training during service; and the importance of defining for teachers the extent, standards, and methods of work that are expected. The appendix, by Professor Hall, gives an account of the supervision of beginning teachers in Cincinnati. Mr. Wolcott contributes a bibliography on city-school supervision.

THE TWELFTH YEARBOOK, PART II (1913)

THE SUPERVISION OF RURAL SCHOOLS

A. S. Cook, J. Davis, L. J. Hanifan, U. J. Hoffman, W. Lund, A. C. Monahan,
E. M. Rapp, J. E. Warren, and J. D. Wolcott

This is the third yearbook of the National Society to deal with an important phase of the administration of rural schools. The several authors

give accounts of what was actually being achieved in typical situations in various parts of the United States at the time the yearbook appeared.

VOLUME FOUR

THE THIRTEENTH YEARBOOK, PART I (1914)

SOME ASPECTS OF HIGH-SCHOOL INSTRUCTION AND ADMINISTRATION

E. R. Breslich, L. D. Coffman, W. A. Jessup, and H. C. Morrison

The three sections of this yearbook are devoted to a discussion of reconstructed mathematics, supervised study, and North Central High Schools, respectively. The first discusses very concretely needed re-adjustments in the subject of mathematics. The second presents the fundamental principles at the basis of the movement for supervised study, together with a review of the experiments that had been tried in various parts of the country. The last paper shows that a clear understanding of existing conditions with respect to the quality of the teaching staff is one of the most important steps in the direction of reconstruction of the subjects of the curriculum.

THE THIRTEENTH YEARBOOK, PART II (1914)

PLANS FOR ORGANIZING SCHOOL SURVEYS, WITH A SUMMARY OF TYPICAL SCHOOL SURVEYS

Charles H. Judd and Henry L. Smith

The first paper in this volume treats the problem of school surveys from three angles: the conditions necessitating careful study of local school situations; the forces that can most safely and profitably be intrusted with making local surveys; and a possible method of approach to the problem in cities of from five to fifty thousand inhabitants. The second paper, by Professor Judd, includes accounts of all major surveys up to 1914, and gives a view of the different types of such inquiries.

THE FOURTEENTH YEARBOOK, PART I (1915)

MINIMUM ESSENTIALS IN ELEMENTARY-SCHOOL SUBJECTS—STANDARDS AND CURRENT PRACTICES

W. C. Bagley, S. A. Courtis, F. N. Freeman, W. S. Gray, H. W. Holmes,
J. F. Hosie, W. A. Jessup, R. G. Jones, H. C. Pryor,
F. E. Thompson, and H. B. Wilson

This yearbook is the 1915 report of investigators coöperating with the Committee of the Department of Superintendence of the National Education Association on Economy of Time in Education, H. B. Wilson, chairman. Three other important yearbooks of the Society (XVI, Part I; XVII, Part I; and XVIII, Part II) are devoted to the subsequent reports of this important committee. This report has to do with means of developing a program for economizing time in the elementary school. A general survey is presented, showing how time is at present distributed in representative cities and describing typical experiments for gaining economy. The bulk of the report

deals with minimal standards in reading, handwriting, spelling, composition, grammar, arithmetic, geography, history, and literature, and represents a series of efforts by different contributors to determine for these subjects just what topics or aspects are truly essential.

THE FOURTEENTH YEARBOOK, PART II (1915)

METHODS FOR MEASURING TEACHERS' EFFICIENCY

Arthur C. Boyce

The author of this monograph calls attention first to the need for rating teachers and to the many inadequacies of the schemes for rating that are in common use. To meet this need and overcome these weaknesses, he proposes a method for rating which features a selected list of traits, a careful definition of these traits, and a graphic method for doing the rating. He also sets forth the results obtained by his method and discusses the relative importance of the several qualities of merit in teachers. Mr. Boyce's rating scale has attracted much attention and, in its original form or with variations, has been employed in the rating of large numbers of teachers.

THE FIFTEENTH YEARBOOK, PART I (1916)

STANDARDS AND TESTS FOR THE MEASUREMENT OF THE EFFICIENCY OF SCHOOLS AND SCHOOL SYSTEMS

B. T. Baldwin, F. W. Ballou, D. C. Bliss, B. R. Buckingham, H. G. Childs, S. A. Courtis, E. P. Cubberley, C. H. Judd, George Melcher, E. E. Oberholtzer, J. B. Sears, Daniel Starch, G. D. Strayer, M. R. Trabue, and G. M. Whipple

This volume is the report of the Committee of the National Council of Education of the National Education Association, under the chairmanship of G. D. Strayer, assisted by several invited collaborators. The fifteen chapters are grouped into two sections. Section I deals with the derivation of scales and units of measurement, including scales for physical growth and for arithmetic, score cards for city school buildings, and completion tests for school use. Section II deals with the application of scales and units of measurement in the work of educational supervision and administration. Among the systems from which accounts of the use of measuring scales are reported are Boston; Montclair; Bloomington, Indiana; Detroit; Salt Lake City; Kansas City, Missouri; Tulsa, Oklahoma; Oakland, California; Cleveland, Ohio; and Madison, Wisconsin.

VOLUME FIVE

THE FIFTEENTH YEARBOOK, PART II (1916)

THE RELATIONSHIP BETWEEN PERSISTENCE IN SCHOOL AND HOME CONDITIONS

Charles E. Holley

The author of this monograph investigated on a fairly comprehensive scale the question: What factors determine the number of years of schooling

received by pupils in the public schools? Among the conclusions reached are these: (1) There is a high correlation between the general cultural advantages of a home and the schooling the children will receive. (2) Environmental influences more often cause a child to stop attending school than lack of ability. (3) Early elimination from school is largely due to factors over which the school has little or no control. (4) High schools are largely attended by the children of the "better class." (5) Marriages are distinctly affected by "educational selection." (6) A family tradition of schooling is effective in inducing unusual persistence in school in some cases.

THE FIFTEENTH YEARBOOK, PART III (1916)

THE JUNIOR HIGH SCHOOL

Aubrey A. Douglass

This monograph, which is accompanied by a bibliography of 173 titles, presents an excellent account of the junior high school as it existed in 1916. In the Appendix, particularly, will be found a general summary of the situation based on information from 100 American cities. The body of the volume discusses the general problems involved, the arguments for and against this type of school, its curriculum, its housing, and the characteristics of adolescence that it attempts to meet and utilize.

THE SIXTEENTH YEARBOOK, PART I (1917)

SECOND REPORT OF THE COMMITTEE ON MINIMAL ESSENTIALS IN ELEMENTARY-SCHOOL SUBJECTS

W. C. Bagley, W. W. Charters, F. N. Freeman, W. S. Gray, Ernest Horn,
J. H. Hoskinson, W. S. Monroe, C. F. Munson, H. C. Pryor,
L. W. Raper, G. M. Wilson, and H. B. Wilson

This yearbook is the 1917 report of investigators coöperating with the Committee on Economy of Time of the Department of Superintendence of the National Education Association, H. B. Wilson, chairman, and is the second printed report of that committee. It contains a further report on every subject discussed in the first report (Fourteenth Yearbook, Part I) and also a preliminary report on physical education. In this report the emphasis is upon the social value of the content of the several school subjects as a basis for the instruction given in them.

THE SIXTEENTH YEARBOOK, PART II (1917)

THE EFFICIENCY OF COLLEGE STUDENTS AS CONDITIONED BY AGE AT ENTRANCE AND SIZE OF HIGH SCHOOL

B. F. Pittenger

The author of this monograph sought by statistical methods to answer two questions: Is the quality of work done by college students affected by the age at which they enter or by the size of the high school from which they come? His results, based on a study of 828 students at the University of Minnesota, show, among other things, (1) that those entering before 18 years

of age did better work than those who entered at 18 or later, (2) that graduates of public schools did better work than graduates of military, private, or church schools, (3) that graduates of large schools did better work than graduates of small schools, (4) that the women did better work than the men, and (5) that elimination from the college, especially in the freshman year, is highly qualitative, in that the good students tend to remain and the poor ones to leave.

THE SEVENTEENTH YEARBOOK, PART I (1918)

THIRD REPORT OF THE COMMITTEE ON ECONOMY OF TIME IN EDUCATION

W. C. Bagley, B. B. Bassett, M. E. Branom, Alice Camerer, J. E. Dealey,
C. A. Ellwood, E. B. Greene, A. B. Hart, J. F. Hosic, E. T. Housh,
W. H. Mace, L. R. Marston, H. C. McKown, A. E. Mitchell,
W. C. Reavis, D. Snedden, and H. B. Wilson

This is the 1918, or third (printed) report of the Committee of the Department of Superintendence of the National Education Association on Economy of Time in Education, and is prepared by various coöperating investigators. Like the first and second reports, printed as yearbooks of this Society, it deals primarily with studies concerning the minimal essentials of various elementary-school subjects, including arithmetic, geography, reading, composition, civics, and history. A special feature of this report is a symposium on the purposes of historical instruction in the seventh and eighth grades, arranged by W. C. Bagley, and contributed to by Professors Dealey, Ellwood, Greene, Hart, Mace, and Snedden. With the exception of this symposium, the various articles in this yearbook deal with actual investigations of the content of the curriculum, especially in its relation to the needs of daily life.

VOLUME SIX

THE SEVENTEENTH YEARBOOK, PART II (1918)

THE MEASUREMENT OF EDUCATIONAL PRODUCTS

E. J. Ashbaugh, W. A. Averill, L. P. Ayres, F. W. Ballou, Edna Bryner,
B. R. Buckingham, S. A. Curtis, M. E. Haggerty, C. H. Judd,
George Melcher, W. S. Monroe, E. A. Nifenecker,
and E. L. Thorndike

The writers of this yearbook prepared it as representatives of the National Association of Directors of Educational Research (now the Educational Research Association) with the intent "to gather into one handy volume a rather complete statement of the various aspects of a new movement which seems destined to have a profound and permanent influence upon American Education." From the ready reception accorded the yearbook, it is not too much to say that this "rather complete statement" had, itself, a quite considerable influence in furthering the movement for educational measurement. Among the topics considered were: the history of educational measurement, the nature and purposes of such measurement, the organization of bureaus of research, a list of existing tests and scales, an exposition of statistical terms and methods, and suggestions for future development.

THE EIGHTEENTH YEARBOOK, PART I (1919)

THE PROFESSIONAL PREPARATION OF HIGH-SCHOOL TEACHERS

G. N. Cade, S. S. Colvin, Charles Fordyce, H. H. Foster, T. W. Gosling, W. S. Gray, L. V. Koos, A. R. Mead, H. L. Miller, F. C. Whitcomb,
and Clifford Woody

The first 160 pages of this "double number" are devoted to a description by H. L. Miller of the University of Wisconsin plan for the preparation of high-school teachers. Section II contains three chapters by Gosling, Colvin, Koos, and Woody on miscellaneous aspects of the problem of teacher-training. Section III, which the remaining contributors prepared, is a report of the Committee of the Society of College Teachers of Education on Practice Teaching for Secondary Teachers. The volume as a whole thus contains not only important analyses of prevailing conditions in the training of high-school teachers, but also suggestive accounts of several novel experiments looking toward the bettering of the deficiencies found to exist in the preparation of such teachers.

THE EIGHTEENTH YEARBOOK, PART II (1919)

REPORT ON ECONOMY OF TIME IN LEARNING: FOURTH REPORT OF COMMITTEE ON ECONOMY OF TIME IN EDUCATION

F. C. Ayer, F. N. Freeman, W. S. Gray, Ernest Horn, W. S. Monroe,
C. E. Seashore, and H. B. Wilson

This group of investigators operated as a sub-committee of the committee that was responsible for three preceding yearbooks bearing similar titles. The group took as its task the formulation of rules, or recipes, by which economy could be secured in education, not by better selection of topics for instruction (stressed in the preceding reports), but by improved methods of teaching which had been selected. The yearbook, accordingly, takes the form of a series of statements of fundamental principles which investigation, or the best expert opinion, has shown should be followed in teaching writing, reading, spelling, arithmetic, drawing, and music. This 'meaty' report has been much quoted and decidedly influential.

VOLUME SEVEN

NINETEENTH YEARBOOK, PART I (1920)

NEW MATERIALS OF INSTRUCTION

A Committee of the Society was created in 1918 under the title "Committee on Materials of Education," which had for its members Messrs. W. C. Bagley, J. C. Brown, C. E. Chadsey, L. D. Coffman, E. P. Cubberley, E. C. Elliott, H. C. Morrison, G. D. Strayer, G. M. Whipple, and C. H. Judd, chairman. With the coöperation of numerous persons this Committee assembled as their first report detailed examples of new materials of instruction, particularly in the fields of reading, geography, history, nature study, mathematics, and community life. The Committee stressed the importance of inducing school boards to set aside each year a certain amount of instructional energy for the purpose

of making similar new materials of instruction. (For further discussion of this topic, see the Twentieth Yearbook, Part I.)

NINETEENTH YEARBOOK, PART II (1920)

CLASSROOM PROBLEMS IN THE EDUCATION OF GIFTED CHILDREN

Theodore S. Henry

Dr. Henry summarized various types of flexible promotion schemes, described typical special rooms for gifted pupils, and then recounted at length the methods and results of an experimental room for gifted pupils organized at Urbana, Illinois. The closing chapters, in addition to a six-page bibliography, discuss the problem of adapting classroom methods to the training of gifted children, and present a series of eighteen specific recommendations for carrying on this type of educational endeavor. (For further discussion of this topic, see the Twenty-Third Yearbook, Part I.)

THE TWENTIETH YEARBOOK, PART I (1921)

SECOND REPORT OF THE SOCIETY'S COMMITTEE ON NEW MATERIALS OF INSTRUCTION

Frances Berry, Edna Keith, F. J. Kelly, W. N. Kerr, H. G. Lull, Nellie R. Olson, Nina Vandewalker, F. L. Whitney, and Numerous Collaborators

The Society's Committee (the same as that for the Nineteenth Yearbook, Part I), under the chairmanship of F. J. Kelly, appointed as sub-committee chairmen the persons listed above, who gathered and organized 295 detailed examples of new materials of instruction, and classified them for use in the kindergarten, the various elementary grades, the junior and the senior high school, and in special classes for the subnormal. These exercises, or 'projects,' all possess a degree of novelty and by the strong appeal they make to children are decidedly suggestive to teachers who are searching for material outside that of the regular textbooks or ordinary supplementary reading. This yearbook, like its predecessor on the same topic, may be regarded as a portion of the contribution made by this Society toward the reorganization of the curriculum.

THE TWENTIETH YEARBOOK, PART II (1921)

REPORT OF THE SOCIETY'S COMMITTEE ON SILENT READING

May A. Burgess, S. A. Courtis, C. E. Germane, W. S. Gray, H. A. Greene,
Reginia R. Heller, J. H. Hoover, James A. O'Brien, J. L. Packer,
Daniel Starch, W. W. Theisen, G. A. Yoakum, and Repre-
sentatives of the School Systems of Cedar Rapids,
Denver, Iowa City, and Racine

The Executive Committee of the Society appointed a Committee on Silent Reading, under the chairmanship of Earnest Horn, which gathered the material in this volume as its report. Section I comprises ten chapters concerned with investigations of various aspects of the problem of reading, as for instance, the difficulties encountered in teaching silent reading, the measurement of speed and comprehension of silent reading, the vocabularies and contents of readers, and the development of reading speed. Section II contains examples

of concrete exercises which have actually been tried in the classroom for teaching silent reading. This yearbook may be regarded as intermediate in scope and purpose between the several treatments of reading in the earlier yearbooks on minimal essentials and the economy of time and the elaborate treatment of reading in the Twenty-Fourth Yearbook, Part I.

VOLUME EIGHT

TWENTY-FIRST YEARBOOK, PARTS I AND II (1922)

INTELLIGENCE TESTS AND THEIR USE

S. S. Colvin, Helen Davis, Bessie L. Gambrill, Henry W. Holmes, W. K. Layton, W. S. Miller, Rudolph Pintner, Agnes L. Rogers, H. O. Rugg, M. R. Trabue, E. L. Thorndike, and G. M. Whipple

Under the chairmanship of the late S. S. Colvin, this Committee of the Society produced this yearbook of 270 pages in the attempt to explain "in a clear and accurate manner the theory, nature, and practical use of intelligence tests." Its two parts are bound in one cover. Part I treats of 'general intelligence,' its nature, how it may be measured, how mental tests have developed, and their essential characteristics. Part II treats in considerable detail "the administrative uses of intelligence tests in various grades, beginning with the primary grade and ending with the college and university." In addition to a wide circulation among schoolmen, this yearbook has been extensively used for purposes of instruction in normal schools and colleges.

TWENTY-SECOND YEARBOOK, PART I (1923)

ENGLISH COMPOSITION: ITS AIMS, METHODS, AND MEASUREMENT Earl Hudelson

By means of questionnaires the author sought to discover from teachers of English what their actual aims and methods were with respect to composition. He next considered the means employed for determining the extent to which these aims were being attained and was led to devise and to standardize two scales for the measurement of English composition. His principal contention is that most composition scales test only how well the pupil can write upon that particular topic, not how well he can possibly write. For the latter purpose he proposes his Maximal Composition Ability Scale. To determine accurately from time to time the extent to which the pupils are exercising their real ability, he proposes another device known as the Typical Composition Ability Scale. Detailed instructions are given for the use of these two scales.

TWENTY-SECOND YEARBOOK, PART II (1923)

THE SOCIAL STUDIES IN THE ELEMENTARY AND SECONDARY SCHOOL

A. S. Barr, J. J. Coss, Henry Harap, R. W. Hatch, H. C. Hill, Ernest Horn, C. H. Judd, L. C. Marshall, F. M. McMurry, Earle Rugg, H. O. Rugg, Emma Schweppe, Mabel Snedaker, and C. W. Washburne

This group of writers, under the direction of H. O. Rugg, has presented in this 324-page yearbook important and somewhat radical proposals concerning

the portion of the curriculum devoted to the social studies. Section I analyzes current practices, shows how social science curricula came to be what they are, and points out needed changes. Section II presents samples of reorganized courses in this field in several schools. Section III discusses the method by which such reorganizations of the curriculum should be carried on. Section IV is a critical appraisal of F. M. McMurry of the proposed reorganizations. This volume may be regarded as one of several fore-runners of the proposed year-books on the Technique of Curriculum-Making. It applies, obviously, primarily to the geographical and historical portions of the curriculum.

VOLUME NINE

TWENTY-THIRD YEARBOOK, PART I (1924)

THE EDUCATION OF GIFTED CHILDREN

B. T. Baldwin, Helen Davis, Lillie R. Ernst, F. N. Freeman, T. S. Henry,
Ernest Horn, H. O. Rugg, L. O. Smith, L. M. Terman, C. W. Waddle,
and G. M. Whipple, chairman (the Society's Committee)

assisted by

J. R. Benson, E. R. Breslich, Arthur Brogue, Margaret V. Cobb, R. R. Cook,
J. C. DeVoss, Anna M. Engel, E. M. Haney, H. C. Hill, K. J. Hoke,
Leta A. Hollingworth, A. J. Martin, E. L. Moyer, Mary L.
Patrick, W. C. Reavis, Grace A. Taylor, H. G. Townsend,
C. W. Washburne, and W. L. Uhl

This extensive yearbook (443 pages of text) may be regarded as an attempt to gain further light and a more varied and comprehensive survey of the problem discussed in the Nineteenth Yearbook, Part II. Section I contains various reports and summaries of the more general aspects of the problem—the history of the movement for special training of the gifted, methods of locating such children, problems of organization and administration, the adaptation of the curriculum, non-intellectual traits of gifted children, etc. Section II presents numerous special studies of such children, with respect to their physical and mental traits, their educational achievements, their subsequent careers in the high school and university, and the outcomes of various school experiments in providing special training for them. Section III is a valuable annotated bibliography of 453 titles.

TWENTY-THIRD YEARBOOK, PART II (1924)

VOCATIONAL GUIDANCE AND VOCATIONAL EDUCATION FOR THE INDUSTRIES

A. H. Edgerton and Fifty Collaborators

This yearbook is one of the largest ever undertaken by the Society. The material for it was gathered and organized by Professor Edgerton from many sources and with the aid of half a hundred contributors. It affords, therefore, a comprehensive exposition of the present status of the branch of educational endeavor to which it is devoted. Section I, which deals with vocational guid-

ance, gives detailed accounts of what is already being done in various city schools systems, both large and small, and in colleges and universities, also accounts of methods of training vocational counselors. Section II deals with vocational education for the industries. It shows what is being done in typical part-time, or continuation, schools and in typical day and evening industrial courses in smaller cities. Further, there is discussion of the training of workers in industry, the training of foremen, and the training of teachers for vocational industrial schools. Both sections are supplied with bibliographies.

VOLUME TEN

TWENTY-FOURTH YEARBOOK, PART I (1925)

REPORT OF THE NATIONAL COMMITTEE ON READING

F. W. Ballou, W. S. Gray, Rose L. Hardy, Ernest Horn, Frances Jenkins,
S. A. Leonard, Estaline Wilson, and Laura Zirbes

Under the chairmanship of W. S. Gray, this Committee, appointed by Commissioner Tigert in January, 1923, subsidized by the Commonwealth Fund, and assisted by numerous school and university specialists, has used the avenue of publication afforded by this Society to present what is one of the most authoritative and most useful general discussions of the problem of reading that has been made available. Among the topics considered are: the aims of instruction in reading, a modern program of reading instruction for the elementary grades and the high school, methods of developing a meaningful vocabulary, the relation of reading to literature and the other content subjects, materials for instruction, standardized and informal reading tests, recognition of individual differences by diagnosis and remedial work. A feature of the book is the series of specific recommendations in which the members of the Committee, by discussion and experiment, have been able to concur.

TWENTY-FOURTH YEARBOOK, PART II (1925)

ADAPTING THE SCHOOLS TO INDIVIDUAL DIFFERENCES

Franklin Bobbitt, B. R. Buckingham, S. A. Courtis, W. S. Gray, Ernest Horn,
Jessie Mackinder, Helen Parkhurst, A. H. Sutherland, Mary A. Ward,
C. W. Washburne, chairman (the Society's Committee)

assisted by

Cecilia Anderson, R. N. Brown, Grace E. Carter, F. E. Clerk, Mary H. Comings,
U. J. Hoffman, Hilda M. Holmes, W. H. Holmes, W. H. Kilpatrick,
S. A. Leonard, J. L. McCrory, H. L. Miller, W. C. Reavis,
Margaret Smith, A. J. Stoddard, Elizabeth T. Sullivan,
L. Belle Voegelien, and W. A. Wirt

Section I of this important yearbook describes the factors which under ordinary school conditions tend to produce maladjustments of pupils with respect to grading and rate of progress. Section II follows with a description of typical attempts to meet these difficulties by adjusting the school's organiza-

tion and methods of instruction. Section III details statistical results of experiments in the individualization of instruction, with special reference to the work at Winnetka. Section IV discusses the various problems which are encountered in thus adapting schools, and Section V outlines the steps involved in launching a program of this sort. Section VI is a critique of these proposals, while Section VII comprises an annotated bibliography of 76 pages.

VOLUME ELEVEN

TWENTY-FIFTH YEARBOOK, PART I (1926)

THE PRESENT STATUS OF SAFETY EDUCATION

M. B. Hillegas, A. B. Meredith, Z. E. Scott, A. W. Whitney, S. J. Williams,
and G. M. Whipple, chairman (of the Society's Committee)

assisted by

Rena Allen, Mary N. Arrowsmith, Harriet E. Beard, Mary B. Day, Ruth C.
Earle, H. S. Gruver, J. H. Harvey, Max Henig, Evelyn T. Holston,
W. D. Keefer, Frances H. Miner, E. G. Payne, M. S. Pittman,
Mary O. Pottenger, Idabelle Stevenson, and Ruth Streitz

This yearbook represents the product of coöperation between this Society and the Education Division of the National Safety Council. It traces the development of the safety movement in industry, in the schools, and in civic administration, shows how safety education has been introduced into various school systems, presents at great length and in full detail the materials and methods of a program of safety education for the elementary schools, with additional suggestions for the adaptation and extension of this program for use in high schools, and in rural and vocational schools. The volume concludes with a general discussion of the significance of safety education and the outlook for its future development.

TWENTY-FIFTH YEARBOOK, PART II (1926)

EXTRA-CURRICULAR ACTIVITIES

F. C. Ayer, C. R. Foster, E. K. Fretwell, L. V. Koos, J. G. Masters,
M. C. Prunty, W. C. Reavis, Earle Rugg, and P. W.
Terry (the Society's Committee)

assisted by

E. H. Chappelle, F. Fickinger, C. E. Hagie, M. B. Horner, H. C. McKown,
C. J. Pieper, E. S. Simmonds, and Clifford Woody

Under the chairmanship of L. V. Koos, this Committee and its associates, by extensive canvassing of the country, has brought together a comprehensive statement of the present status of extra-curricular activities in the public schools of the United States. The Committee has not sought primarily to evaluate these varied activities or to prescribe rules for their inauguration or

control, but rather to state current practices with respect to such matters as honor societies, publications, student government organizations, debating, music, athletics, assemblies, and clubs of all kinds. These are discussed for elementary, for junior-high, and for senior-high schools. Special attention is paid to the relation of the teacher to these various enterprises.

VOLUME TWELVE

TWENTY-SIXTH YEARBOOK, PARTS I AND II (1927)

THE FOUNDATIONS AND TECHNIQUE OF CURRICULUM CONSTRUCTION

William C. Bagley, Franklin Bobbitt, Frederick G. Bonser, Werrett W. Charters,
George S. Counts, Stuart A. Courtis, Ernest Horn, Charles H. Judd,
Frederick J. Kelly, William H. Kilpatrick, Harold Rugg (Chairman),
George A. Works (Members of the Society's Committee)

Associated Contributors

Otis W. Caldwell, Walter D. Cocking, Ellsworth Collings, Flora J. Cooke, J. L.
Flanders, Harry O. Gillet, John A. Hockett, Marietta Johnson, Margaret
Naumburg, Jesse H. Newlon, Raymond W. Osborne, Henry Carr
Pearson, C. A. Phillips, Caroline Pratt, William C. Reavis, Ethel I.
Salisbury, E. M. Sipple, Eugene R. Smith, A. L. Threlkeld,
Carleton Washburne

From time to time, in a dynamic society it is imperative that we stand aside from the movement of affairs to review trends, to assay products, to map out new paths. The chief purpose of this Yearbook is a study and appraisal so far as agreement is possible of curriculum making in American schools—past and present.

For two years the Society's Committee was engaged in the development of one phase or another of the work, either in collecting and appraising the contemporary situation, in studying the chief trends of development in the past century or in prolonged round table conferences over similarities and divergences in educational theory.

This Yearbook presents three results of their efforts: a historical review, a description and evaluation of contemporary practices, and a statement of foundational principles for curriculum reconstruction.

Part I of this Yearbook attempts a description and critical synthesis of curriculum-making, past and present. Part II presents the committee's joint platform for curriculum-construction—a general statement of the foundational principles upon which the committee desires to see the next steps taken in the reconstruction of the school curriculum. Also the frank and interesting individual statements of the views of the several members of the committee.

VOLUME THIRTEEN

TWENTY-SEVENTH YEARBOOK, PART I (1928)

NATURE AND NURTURE: THEIR INFLUENCE UPON INTELLIGENCE

Lewis M. Terman, Barbara S. Burks, Truman L. Kelley, E. L. Thorndike,
Raymond R. Willoughby, Harold E. Jones, Helen L. Koch, Gladys G.
Tallman, Mildred Burlingame, Calvin P. Stone, Frank N. Freeman,
K. J. Holzinger, Blythe C. Mitchell, Agnes L. Rogers, Dorothy
Durling, Katharine McBride, Joseph Peterson, Katherine
Murdoch, Doris Maddow, Nettie L. Berg, Gertrude
Hildreth, Florence L. Goodenough, Carolyn Hoefer,
Mattie C. Hardy, Lois Doe-Kulmann, Arnold
Gesell, Janet A. Matthew, Bertha M. Luckey,
Katharine B. Greene, Mary L. Casey,
Helen P. Davidson, Doris I. Harter,
and Arthur I. Gates

Part I contains a very useful and important chapter furnished by Mrs. Herman Ramsperger of Stanford University on difficulties met in the statistical handling of the material of nature-nurture studies. Her section on the discovery and expression of degrees of causation among groups of dependent factors is particularly important, including as it does discussion of path coefficients and coefficients of determination. Other chapters contain a study of the intelligence of siblings by E. L. Thorndike of Teachers College, Columbia University, a comparison of white and negro children in rational learning by Joseph Peterson of George Peabody College for Teachers, a study of the effect of the nursery school upon intelligence by Florence L. Goodenough of the University of Minnesota, and a checking of the effects of training by A. I. Gates of Teachers College, Columbia University. These are grouped under seven heads: (1) Family resemblance; (2) intelligence and social environment; (3) race differences; (4) intelligence and schooling; (5) relation to health or physique; (6) constancy of the IQ; and (7) effects of coaching or special training.

TWENTY-SEVENTH YEARBOOK, PART II (1928)

NATURE AND NURTURE: THEIR INFLUENCE UPON ACHIEVEMENT

Lewis M. Terman, Leta S. Hollingworth, Margaret V. Cobb, J. D. Heilman,
Katherine M. Denworth, F. P. Obrien, Howard Taylor, M. J. Van
Wagenen, William A. McCall, T. C. Holy, Lonzo Jones, G. M.
Ruch, L. Dewey Anderson, June E. Downey, Mark A. May,
Hugh Hartshorne, Guy M. Whipple, Joseph Peterson,
M. C. Barlow, P. R. Farnsworth, and Barbara S. Burks

The investigations of Part II of the Yearbook are grouped under five heads: (1) Achievement and intelligence; (2) achievement and school attendance; (3) achievement and teaching ability or school methods; (4) achievement and school expenditures; and (5) achievement and effort.

The basic question asked in Part II is as to whether (1) native ability or (2) public school experience determines levels of pupil achievement in school tasks. The most careful answer is offered in Chapter II, where J. D. Heilman of Colorado State Teachers College reports the use among a group of 828 ten-year old public school children in Denver of expressions of amount for (1) mental age, (2) school attitude, and (3) home status to determine school achievement in terms of educational age. He uses Sewell Wright's path coefficient method and finds that at least "50 percent of the variation in educational age" is due to heredity as measured in the study. School attendance alone accounts for but about 5 percent of the differences in school achievement found in his group of ten-year old pupils, and if the influence of school attendance in combination with mentality be added, not over 13 percent to 19 percent of educational age can be attributed to educational exposure. The implications of these findings for probable necessary length of elementary education are very apparent. The chairman of the Yearbook Committee, L. M. Terman, says, "Results such as those of Heilman open the question as to whether eight years of school attendance is really necessary to bring pupils up to the standard usually achieved by the eighth grade. One wonders whether in the four or five years between ten and fourteen they might not learn to read, write, and spell as well, and master as much arithmetic, history, and geography as they would be likely to in eight years."

VOLUME FOURTEEN

TWENTY-EIGHTH YEARBOOK, PARTS I AND II

PRESCHOOL AND PARENTAL EDUCATION

Prepared by the Society's Committee

B. T. Baldwin (deceased), Arnold Gesell, Patty S. Hill, Douglas Thom, Edna White, Helen T. Woolley, and Lois H. Meek (Chairman)

Assisted by

W. E. Blatz, Agnes Burke, Grace Caldwell, Lelah M. Crabbs, Bess V. Cunningham, Mary D. Davis, Charlotte G. Garrison, Ernest Groves, Sidonie M.

Gruenberg, Ruth Haefner, Francis A. Hungerford, Harriet Johnson,

H. E. Jones, Grace Langdon, Elizabeth Lord, Lawson Lowrey,

Elizabeth Moore, Mary Murphy, Winifred Rand, Mae Ray-

mond, Mandel Sherman, G. S. Stevenson, Mary Sweeny,

Nell B. Taylor, Flora Thurston, Leona Vincent, Beth

Wellman, C. A. Wilson, and Elizabeth Woods

The Twenty-Eighth Yearbook is the most significant contribution that has been made to the literature of preschool and parental education. A request for a yearbook in this field was made to the National Society for the Study of Education in February, 1925, and the committee was formally organized in October, 1925. Dr. Lois Hayden Meek, Educational Secretary for the American Association of University Women, was appointed chairman and the other members of the committee were chosen to represent various aspects of preschool and parental education; Dr. Bird T. Baldwin and Dr. Arnold Gesell,

research in child development; Professor Patty Smith Hill, education of young children; Miss Edna N. White, home economics aspect of preschool and parental education; Dr. Helen T. Woolley, psychological aspects of personality problems of childhood; Dr. Douglas Thom, the psychiatric aspect of child problems. A generous grant from the Laura Spelman Rockefeller Memorial, supplementing the appropriation of the National Society for the Study of Education, made possible the work of the Committee.

The seven members of the Committee and the twenty-nine contributors associated with them, have assembled and presented in the Yearbook a most comprehensive survey of the present status of preschool and parental education. In setting forth the Committee's purpose for the Yearbook, Dr. Meek says in the introduction: "The Committee hopes that the present yearbook will help to show the trends of the movement, to point out the need for carefully trained personnel, to emphasize the varied influences of home, school and community life, and to focus attention on the total aspect of child development—physical, emotional and social, as well as intellectual." She further states that the Committee worked and thought together on practically every part of the book in an effort to unify the contributions of the many who supplied the wealth of data, and to present the material concerning the education of children and parents from a point of view which would integrate a movement participated in by many groups with varying objectives and backgrounds.

Throughout the book the term preschool refers "to the whole period of infancy and early childhood, from birth up to elementary school entrance at the age of six or seven." The term parental education is used "in its broadest sense to include all methods and devices of adult education intended to assist parents in the understanding and care of their children."

The book is divided into two parts—Part I on organization and development of preschool and parental education, and Part II on research and method in this field. In Part I, the history of the movement is given, including a brief discussion of the beginnings of the kindergarten, the Montessori school, the nursery school, child health centers, play schools and child study groups. The following general considerations underlying preschool and parental education are stressed: the importance of the preschool years from the standpoint of growth and development, the influence of home and parents, the need of supplementary educational agencies and fundamentally of educating parents themselves. The present organization of education for preschool children is given in considerable detail covering the family as an agency, day nurseries, maternity and infant welfare centers, the clinics, nursery schools and kindergartens. Part II also includes a survey of current programs in parental education and experiments in preparental training, and indicates what is being done in professional training for research and instruction in preschool education, in the professional training of nursery school teachers, and in the training of leaders in parental education.

Part II, on research and method, opens with research activities in the field of child development, indicating the present status of research in child development and citing the outstanding studies of motor, language, intellectual, emotional and social development and of physical growth. A section follows on educating preschool children, with a thorough discussion of child activities,

including those leading to the establishment of routine habits, play, art experiences, language and literature and social development. Provision for individual differences and the records of young children are also introduced. A concluding section deals with methods and materials for the education of parents and of practical ways of educating parents and teachers to the value of mental hygiene.

The Twenty-Eighth Yearbook is a very valuable source book in the field of preschool and parental education—a book which administrators, supervisors, teachers and parents interested in general or specialized education for the preschool child or the parent will find an indispensable addition to their libraries.

VOLUME FIFTEEN

TWENTY-NINTH YEARBOOK, PARTS I AND II (1930)

REPORT OF THE SOCIETY'S COMMITTEE ON ARITHMETIC

W. A. Brownell, B. R. Buckingham, G. T. Buswell, C. E. Greene, R. L. West,
F. B. Knight, (Chairman)

Assisted by

E. A. Beito, J. C. Brown, L. J. Brueckner, J. R. Clark, W. F. Dearborn,
Arthur Edwards, H. L. Harap, Ernest Horn, C. H. Judd, Fred Kelly,
L. A. King, R. H. Lane, Josephine MacLatchy, C. R. Mead, R. L.
Morton, Elma A. Neal, G. M. Norem, W. J. Osburn, J. R.
Overman, Isidoro Panlasigui, Harriet E. Peet, F. G.
Pickell, A. C. Repp, G. M. Ruch, C. W. Stone,
Florence Stratmeyer, and C. W. Washburne

The Twenty-Ninth Yearbook of the National Society for the Study of Education was prepared by the Society's committee on arithmetic, of which F. B. Knight is chairman, and the membership includes W. A. Brownell, B. R. Buckingham, G. T. Buswell, C. E. Greene, and R. L. West. Thirty other active members of the Society assisted the committee in the preparation of this 700 page report, or acted as a special reviewing committee, whose critique of the work as a whole appears at the end of the Yearbook.

The Twenty-Ninth Yearbook is divided into two parts. Part I, *Some Aspects of Modern Thought on Arithmetic*, contains an article on "The Social Value of Arithmetic," by B. R. Buckingham; one on "The Arithmetic Curriculum," by West, Greene, and Brownell; on "Some Considerations of Method," by F. B. Knight; on "Testing and Diagnosis," by Greene and Buswell; and on "The Training of Teachers," by B. R. Buckingham.

Part II, *Research in Arithmetic*, contains a study of techniques by W. A. Brownell, a critical survey of previous research in arithmetic, by G. T. Buswell, and reports of eleven hitherto unpublished studies on various pertinent topics. The Appendix contains a *Critique of the Yearbook* by the reviewing committee, Leo J. Brueckner, chairman.

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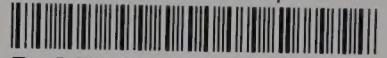
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